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ABSTRACT

This document is the first volume of a six-volume report on sexuality education. This volume summarizes the structure and content of sexuality education in the United States, reviews the literature on the effects of sexuality education, describes the evaluation methods, provides a description of and the evaluation data for each program, and summarizes the effectiveness of different approaches in meeting different goals. The four chapters in part I provide overviews of the evaluation research and of major trends and characteristics of sexuality education as well as a review of the effects of junior and senior high school sexuality education programs. Part II contains the evaluation of four comprehensive programs at University City High School (Missouri), Council Rock High School (Pennsylvania), George Mason High School (Virginia), and Ferndale Elementary and High Schools (California). Part III contains evaluations of two short school programs at the Family Guidance Center (FGC) in St. Joseph, Missouri and the Planned Parenthood Center of San Antonio, Texas. Part IV contains an evaluation of Lakeview Center (Pensacola, Florida), a short nonschool program. Part V evaluates two conferences, one at the St. Joseph FGC and the other at the Planned Parenthood League of Massachusetts. Part V evaluates the Planned Parenthood Center of San Antonio peer education program. The FGC parent/child program and the St. Paul-Ramsey Hospital Maternal and Infant Care inschool clinic program (St. Paul, Minnesota) are evaluated in parts VII and VIII respectively. Part IX contains a summary. Questionnaires and evaluation measures used in the study are appended. (NB)

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An Evaluation of Programs and Their Effects

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Sexuality Education:

An Evaluation of Programs and Their Effects

Developed at Mathtech, Inc.
by Douglas Kirby, PhD

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CONTENTS

ACKNOWLEDGMENTS v

PREFACE. vii

PART I: INTRODUCTION

1 INTRODUCTION AND OVERVIEW OF THIS RESEARCH 1

2 AN OVERVIEW OF SEXUALITY EDUCATION IN THE UNITED STATES. 9

3 THE EFFECTS OF JUNIOR AND SENIOR HIGH SCHOOL SEXUALITY EDUCATION PROGRAMS: A REVIEW OF THE LITERATURE 25

4 METHODS USED IN THIS EVALUATION. 47

PART II: EVALUATION OF COMPREHENSIVE PROGRAMS

5 UNIVERSITY CITY HIGH SCHOOL 77
  Tables. 91

6 COUNCIL ROCK HIGH SCHOOL 107
  Tables. 125

7 GEORGE MASON HIGH SCHOOL 157
  Tables. 173

8 FERNDALE ELEMENTARY SCHOOL AND HIGH SCHOOL 205
  Tables. 211

PART III: EVALUATION OF SHORT SCHOOL PROGRAMS

9 FAMILY GUIDANCE CENTER 217
  Tables. 225

10 PLANNED PARENTHOOD CENTER OF SAN ANTONIO 237
  Tables. 244

PART IV: EVALUATION OF A SHORT NONSCHOOL PROGRAM

11 LAKEVIEW CENTER. 253
  Tables. 260

PART V: EVALUATION OF CONFERENCES

12 FAMILY GUIDANCE CENTER 269
  Tables. 277

13 PLANNED PARENTHOOD LEAGUE OF MASSACHUSETTS 287
  Tables. 297

PART VI: EVALUATION OF A PEER EDUCATION PROGRAM

14 PLANNED PARENTHOOD CENTER OF SAN ANTONIO 305
Tables. 312

PART VII: EVALUATION OF A PARENT/CHILD PROGRAM

15 FAMILY GUIDANCE CENTER 317
Tables. 329

PART VIII: EVALUATION OF AN INSCHOOL CLINIC PROGRAM

16 ST. PAUL-RAMSEY HOSPITAL MATERNAL AND INFANT CARE PROGRAM . . 351
Tables. 361

PART IX: SUMMARY

17 STATISTICAL SUMMARY OF LONGER PROGRAMS AND SHORTER PROGRAMS. . 363
Tables. 370

18 SUMMARY AND DISCUSSION OF ALL RESULTS. 385

APPENDIX

QUESTIONNAIRES USED IN THE EVALUATION. 409

KNOWLEDGE QUESTIONNAIRE 413

ATTITUDE AND VALUE INVENTORY 419

SCALES IN THE ATTITUDE AND VALUE INVENTORY 425

BEHAVIOR INVENTORY 429

INTEGRATED QUESTIONNAIRE 435

COURSE EVALUATION FOR STUDENTS (FORM 1). 443

COURSE EVALUATION FOR STUDENTS (FORM 6). 447

COURSE EVALUATION FOR PARENTS (FORM 11). 451

COURSE EVALUATION FOR PARENTS (FORM 4) 455

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Many people at each of the program sites contributed to this project. Most important they agreed to have their programs evaluated by outside researchers. They should be particularly commended for this, because staffs of all kinds of programs often like to avoid outside scrutiny. More specifically, people at the sites helped us develop subcontracts, allowed us to observe and critique their programs, implemented many of our suggestions for improving their programs, helped us develop and revise questionnaires, administered questionnaires to many of their students or participants, rearranged their program schedules so that our quasi-experimental designs and sampling requirements could be better met, wrote numerous reports including detailed descriptions of their programs, and reviewed this volume. Their program descriptions were particularly helpful, because they commonly formed the basis for the program descriptions included in this volume. Although numerous people at each site helped, some deserve special attention for their extra efforts:

University City High School in St. Louis, Missouri	Martha Roper
Council Rock High School in Newtown, Pennsylvania	Konstance McCaffree
George Mason High School in Falls Church, Virginia	Mary Lee Tatum
Ferndale Elementary School in Ferndale, California	Allen Jorgensen
Ferndale High School in Ferndale, California	Charles Lakin
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Family Guidance Center in St. Joseph, Missouri	Jean Brown
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Lakeview Center in Pensacola, Florida	Pam Sofferin
	Catherine Harris
Planned Parenthood League of Massachusetts	Alice Verhoeven
	Martha Kurz
St. Paul-Ramsey MIC Clinics in St. Paul, Minnesota	Kathy Arnold
	Lucy Kapp
	Laura Edwards
Dos Pueblos High School in Santa Barbara, California	Lee Beckom

I am also indepted to the thousands of teenagers who voluntarily participated in this evaluation. They completed many questionnaires carefully and honestly.

Numerous people helped me develop evaluations methods and questionnaires. Aside from the people already mentioned, my colleagues at Mathtech, Judith Alter, Sandra Baxter, and Pam Wilson were particularly helpful. Other individuals including Jesse Blatt and Lynn Cooper also gave helpful suggestions.

Nancie Connolly conducted nearly all the statistical analysis. She organized thousands of questionnaires, coordinated a massive amount of keypunching, created and cleaned hundreds of data files, and meticuously ran hundreds of computer programs.

Several additional people helped produce this report. My father, Bernard Kirby, carefully edited it several times. Jessie Blatt, Bob Selverstone, Judy Senderowitz, individuals from each site, and other people in the field also reviewed it.

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My sincere thanks to everyone who helped.

Douglas Kirby

PREFACE

Suggestions for Reading This Volume

People reading this volume will probably have interests in different topics -- the quality of sexuality education in the United States, the effects of particular programs evaluated in this study, the methods used to evaluate these programs, and the implications of this study for the effects of sexuality education. Consequently, I have tried to write this volume so that some sections are independent of others and so that readers can skip those sections of least interest without losing essential information.

I encourage everyone to read Chapter 1 which describes the background, overall design, and some of the strengths and weaknesses of this research. Readers who are most interested in the quality of sexuality education and the effects of sexuality education as revealed in other studies should read Chapters 2 and 3; other readers can skip them. To understand the evaluation of the programs, everyone should read the first part of Chapter 4 on methods, but those with less interest in methods can skip the remainder of Chapter 4 where that is suggested in Chapter 4. Readers interested in the specific effects of different kinds of programs should read each of the evaluation chapters. Other readers can skip to the final chapter. In each of the evaluation chapters are both tables and short descriptions of the meaning of each table. Readers who understand the tables can read the tables, skip the descriptions, and go to the summary sections within each chapter; others may wish to read the text describing the findings of each table.

Using the Findings of This Volume

Because sexuality education is controversial, and also because there have been only a few good studies of the effects of sexuality education, many people may cite this study to support their own conclusions. This study collected a large amount of different kinds of data on nine different programs; consequently it may contain some data somewhere which may incorrectly give the appearance of supporting nearly any conclusion. Thus, I strongly encourage you to focus upon the major findings and not to emphasize minor findings that are not widely supported and may be artifactual.

CHAPTER 1

INTRODUCTION AND OVERVIEW OF THIS RESEARCH

This chapter discusses the need for the evaluation of sexuality education programs, the background and basic design of this evaluation, its strengths and limitations, and the contents of all the volumes.

The Need for Research on Sexuality Education

The Sexual Problems of Young People

Young people have numerous problems relating to their sexuality. A prominent problem is unintended pregnancy:

- More than one-third of all girls become pregnant before they become 20.
- Each year about 1.1 million girls between the ages of 10 and 19 become pregnant.
- Each year more than 500,000 teenagers give birth, shorten their schooling, and have less rewarding careers.
- Each year more than 400,000 teenage girls terminate their pregnancies through abortion.

Although pregnancy may be more dramatic, other problems related to adolescent sexual activity are more subtle, but still more common and sometimes more enduring. Many adolescents:

- feel anxiety about their changing bodies and relationships with their families and friends,
- feel vulnerable and succumb to peer pressure or exploitation,
- want accurate information and advice, but feel uncomfortable asking their parents or other adults,
- engage in different types of sexual activity and then experience dissatisfaction and guilt,
- contract a sexually transmitted disease.

These and other problems have immediate negative effects; some also reduce sexual enjoyment and closeness in adult life and add stress to marriage.

Sexuality Education -- a Controversial Solution

At the beginning of this century, professionals working with youth proposed that sex education should be taught in public schools and that it would reduce sexual activity, pregnancy, and venereal disease. Although those proponents were quite conservative and wanted to reduce, if not eliminate, masturbation and all non-marital sexual intercourse, they were nevertheless immediately criticized by others who were more morally conservative, by a few who were opposed to the moralistic tone, and by a few who simply thought such programs would be ineffective.

Now, 75 years later, people are still debating some of the same issues. Many people working with youth believe that sexuality education programs can increase adolescents' knowledge, help them better understand their families' values and clarify their own values, and improve their decisionmaking, communication, and other skills, and that in turn these changes will reduce unwanted and irresponsible sexual activity, unintended pregnancies, sexually transmitted diseases, rape, and some sexual dysfunctions, and will improve interpersonal relationships and psychological health. To achieve such outcomes, numerous schools and other youth serving agencies have devoted a great amount of time, money, and other resources to sexuality education.

Other people, however, believe that sexuality education programs will not have such a positive impact. Some believe that the media, peers, and families have such a great impact upon young people's sexual beliefs, attitudes, and behavior that even comprehensive programs cannot have much impact of any kind. Other people believe that programs will suggest new sexual ideas to adolescents, inculcate values different from those of their parents, teach the adolescents that various sexual behaviors are morally acceptable behaviors, encourage them to engage in greater sexual behavior, and thereby have a negative impact. Thus, the controversy has continued.

The Need for Research

Surprisingly, there have been relatively few rigorous evaluations of programs to resolve this historical controversy and to improve our knowledge of the effects of programs. Some studies demonstrate that those programs evaluated do increase knowledge and that a few of them may facilitate attitudinal change if that is a clear goal of the course. A few studies of college programs indicate that they have little impact upon actual sexual behavior such as petting or sexual intercourse, but that those courses which emphasize contraception may improve the use of effective methods of contraception and thereby reduce pregnancies.

Unfortunately, there are numerous methodological limitations with most of these past studies:

- Many studies have evaluated single programs which may or may not be representative of all sexuality education programs, and thus it is difficult to generalize from them to other courses.
- Because evaluators have rarely been able to randomly assign students to experimental and control groups, some self-selection factors may have affected their results.
- Very few evaluations have measured effects beyond the end of the program.
- Most studies focused upon knowledge and failed to measure the impact upon many important attitudes and behaviors such as sexual activity and pregnancy.
- Many questionnaires have been poorly designed.
- Many evaluations reported the statistical significance of the change in students, but few evaluations reported the magnitude of the change and its theoretical or practical significance.
- None of the studies compared the effectiveness of different kinds of programs.

Consequently, previous studies have left unanswered many important questions about sexuality education programs.

- How does sexuality education affect students' attitudes and behaviors?
- Does it increase self esteem?
- Does it reduce unwanted pregnancy and sexually transmitted diseases?
- Does it improve young people's communication with parents?
- What are the long term effects?
- What are the most effective models?
- Are shorter programs more cost effective than semester programs or vice versa?
- Are separate courses more effective than units which are part of other courses (e.g., a sexuality unit within a science course)?
- What topics are most important?
- What characteristics of teachers are most important?
- What kinds of activities -- lectures, discussions, role-playing, films -- are most effective in producing positive outcomes?

Both the importance of sexuality education and the need for further evaluation are also demonstrated by the many people who are currently asking important and difficult questions about sexuality education. Each month reporters from newspapers, magazines, and radio and television stations request information on the amount of sexuality education in schools, the comprehensiveness of programs, and the effects of programs. Each month several Congressional representatives request information about the effects of sexuality education programs. They ask whether programs reduce unwanted pregnancies, increase self esteem, and improve the psychological health of adolescents. Each month educators ask about the evidence for the success of programs and the realism of meeting projected goals. Unfortunately, most of these questions and requests for information cannot be adequately answered because the necessary research has not been conducted or completed.

The Background and Overall Design of This Project

During the mid 1970's the federal government increasingly recognized the large number of unintended teenage pregnancies and the other sexual problems encountered by youth and it sought solutions. Recognizing that sexuality education was a potentially effective solution, it asked the Center for Health Promotion and Education (formerly the Bureau of Health Education) in the Centers for Disease Control to assess and help develop effective sexuality education programs. The Center for Health Promotion and Education in turn awarded Mathtech two consecutive contracts to undertake the development and research.

The basic goal of this research was to find, improve, evaluate, and describe effective approaches to sexuality education. To meet this overall goal, we completed several steps in the two contracts.

In the first contract we:

- reviewed all the relevant research on sexuality education
- defined important goals of sexuality education
- identified and had 200 professionals rate the important characteristics of programs believed to facilitate those goals
- identified potentially effective approaches to sexuality education
- identified numerous promising examples of each approach with the desired characteristics
- developed preliminary methods and questionnaires to evaluate programs.

The findings of the first contract were summarized in a six-volume report entitled An Analysis of U.S. Sex Education Programs and Evaluation Methods. The review of the research in that report demonstrated that insufficient research had been previously conducted to determine (1) whether sexuality education would reduce unintended pregnancies and (2) what kinds of progams were most effective. Consequently, the Center for Health Promotion and Education awarded Mathtech a second contract to select, improve, and carefully evaluate different approaches.

In this second contract we:

- selected ten specific programs representing different approaches: 6-hour programs, semester programs, conferences, programs for young people alone and for young people and their parents together, peer education programs, both school and non-school programs, and both educational and clinic approaches
- improved each program as much as feasible by conducting an initial formative evaluation, suggesting program changes, providing training, and providing materials
- improved the questionnaires and methods of evaluation
- conducted a far more rigorous evaluation of the effectiveness of each program using quasi-experimental designs, and questionnaire and pregnancy data
- described the effectiveness of the programs
- developed materials to help others implement the most effective approaches.

The results of this second contract, including the findings of the evaluation and the implementation materials, are presented in the volumes summarized below.

Methods Used in the Evaluation

As much as feasible, we designed this study to overcome the problems and limitations that have characterized previous studies. However, no single study can overcome all the methodological problems specified above, and this study is not an exception. This study does have a number of strengths and limitations that are summarized below. Chapter 4 discusses more fully the methods used.

Methodological Strengths of This Study

Selection of Programs. We devoted considerable effort to finding promising programs for development and evaluation. As noted above, we specified an exhaustive list of potentially important characteristics of programs, and then had 200 experts in the field rate the importance of these characteristics. We then used the most important characteristics of teachers, topics covered, and program structure as criteria for our selection of programs. We also selected programs that represented a variety of different approaches, served a variety of different age and ethnic groups, and were widely distributed geographically.

We identified ten programs for our initial evaluation, but dropped four of them for a variety of reasons and replaced them with three other programs. We believe that all of the programs are excellent and represent potentially more effective programs. However, we certainly cannot and do not claim that they are the best programs in the country, for there are many excellent programs in this country that we have not visited or evaluated. With the possible exception of the clinic program, all of the programs we evaluated are replicable; they do not require unique resources that cannot be obtained or developed elsewhere.

Evaluation of All Programs. We report here the results of our evaluation of all of the programs. This overcomes a possible problem with some previous studies -- teachers or program staff may have been more likely to write up their evaluations if they were positive, and in turn journals may have been more likely to publish positive findings than negative findings. Thus, previous published reports may be biased. In this study, we are publishing the results of our evaluation regardless of whether they are positive or negative.

Use of Experimental or Quasi-experimental Designs. In all of the sites we collected pretest and posttest data from the students in the sexuality education classes. Whenever possible we also collected data from similar control groups.

Collection of Delayed Post-test Data. In many of the sites, we collected data three to six months after the end of the program. This is important, because some effects of programs may diminish with time and other effects may not occur until months after a program ends when some of the students may first begin dating, having sexual relations, and using methods of birth control.

Multiple Methods of Collecting Data. An important principle in methodology is that evaluators should collect several maximally different kinds of data. If the data collection methods are maximally different, then they will probably involve different assumptions and introduce different sources of error. Thus, if all the methods support the same conclusions, then the evaluators can have much greater faith in their conclusions. Conversely, if the different methods produce different or contradictory conclusions, then the researcher knows that one or more of the methods and conclusions are invalid.

In this study we used several different methods. First, we administered questionnaires to the students and asked them to assess how the program affected or would affect them in the future. Second, we administered pretests, posttests, and delayed posttests to the students and actually measured change in numerous outcomes. Third, we administered questionnaires to the parents of the students and asked them to assess the impact of the program upon the students. Finally, at three sites, we obtained estimates of the pregnancy rates in the schools both before and after the programs were initiated, or among students taking and not taking the courses.

Specification and Measurement of Important Outcomes. Numerous experts in the field helped us identify and rate the important features and outcomes of programs. They indicated that many outcomes were important in reducing unwanted pregnancy and sexually transmitted diseases and in improving the social, sexual, and mental health of the students.

We then carefully developed questionnaires which measured many of these important outcomes.

Methodological Limitations of This Study

Sample of Programs. The sample of programs studied in this project are definitely not a random sample of sexuality education programs in this country. On the contrary, we selected them because we believed that they were promising. Thus, one should be cautious about generalizing to other sexuality education programs, particularly to programs that differ in significant ways from these programs.

Quasi-experimental Design. In several sites, we did successfully administer questionnaires to control groups, but in other sites we were not able to do so. For example, in one site the entire junior class participated in the sexuality unit and consequently, the school itself could not produce a control group of similar students. There were other schools nearby, but they served communities with social/economic statuses different from the experimental site, and they were unwilling to administer sensitive questionnaires to hundreds of students in their schools so that we could have a control group.

Duration of the Second Posttests. We did successfully administer second posttests to many students, but the elapsed time was only three to six months. This amount of time is greater than in most previous studies, and it is sufficient to assess the impact of time upon knowledge, attitudes, and some behaviors. Moreover, as time passes the effects of programs typically diminish and the effects of other more recent events increase.

However, we needed a longer period of elapsed time to fully measure the impact upon some sexual behaviors. Some of the results may have obscured behavioral change, particularly change in the use of contraceptives, because these changes may have come at a later time.

We were unable to wait a longer period of time to administer second posttests because students left the program and became less willing to complete questionnaires, and because we needed to complete the research.

Questions in the Questionnaires. Although we asked far more questions and also more sensitive questions than previous studies, federal regulations nevertheless prevented us from modifying or adding questions once the questionnaires were approved. As we used the questionnaires, we learned more about them and wanted to make improvements, but were not allowed to do so.

We developed standardized knowledge tests to measure the impact of the programs upon knowledge. Although all teachers had a role in developing them and indicated that they covered the materials in the questions, the knowledge tests did not always cover the material emphasized by the teachers in the classroom, and thus the knowledge tests may have underestimated the amount that students actually learned.

Administration of Questionnaires. In evaluations of educational programs, evaluators commonly have test administrators administer the test. These administrators typically ask the teachers to leave the room, hand out the test, read the directions, monitor the classroom, and collect the tests. We did not do this for two reasons. First, in one site we did have a test administrator administer the questionnaires during the teachers' absence. We learned that the students were far less willing to answer carefully and honestly the personal and sensitive questions in these questionnaires when their teacher, whom they trusted, was not there to provide assurances of anonymity and to emphasize their importance. Thus, we concluded that using test administrators instead of the teachers would have made the data less valid rather than more valid. Second, we could not afford to pay test administrators to go to all the sites around the country every time questionnaires were administered. Because questionnaires were administered at each site on many occasions, the cost would have been prohibitive.

Bias in Course Evaluations. The data presented both here and in many previous studies indicate that participants typically provide overly positive evaluations of their courses; participants normally give their courses higher than average ratings and commonly indicate that the courses had a greater impact upon them than most courses are likely to have. Thus, one should view the course ratings with some caution.

In sum, this contract enabled us to devote greater effort to evaluation than most previous studies and to further develop and improve the methods used in the evaluation of programs. However, our methods did have limitations and we encourage others to improve upon them.

The Organization of This Report

The complete report contains several separate volumes and an Executive Summary which summarizes the first volume. Although all of the volumes are an integrated package which we hope will meet many varied needs of educators, evaluators, and policy makers, some of the volumes will have particular interest for selected groups of people, and each volume is complete and can be used independently of the others.

Sexuality Education: An Evaluation of Programs and Their Effects...An Executive Summary summarizes first the existing information on sexuality education in the United States and then the overall design, methods, and major findings of this evaluation.

This first volume, Sexuality Education: An Evaluation of Programs and

Their Effects, summarizes the structure and content of sexuality education in the United States, reviews the literature on the effects of sexuality education, describes the evaluation methods, provides a description of and the evaluation data for each program, and summarizes the effectiveness of different approaches in meeting different goals.

The second volume, Sexuality Education: A Guide to Developing and Implementing Programs, provides suggestions for developing and implementing effective educational and clinic-based approaches to sexuality education. It discusses the reasons for and nature of responsible sexuality education and describes approaches to building a community-based program, selecting teachers and finding training for them, assessing needs of the target population, and designing and implementing programs for them. It also provides suggestions for evaluating programs.

The third volume, Sexuality Education: A Curriculum for Adolescents, is based upon the curricula of the most comprehensive programs. These programs increased knowledge and helped clarify values. The curriculum consists of the following units: Introduction to Sexuality, Communication Skills, Anatomy and Physiology, Values, Self Esteem, Decisionmaking, Adolescent Relationships, Adolescent Pregnancy and Parenting, Pregnancy Prevention, Sexually Transmitted Diseases, and Review and Evaluation. Each unit contains a statement of goals and objectives, an overview of the unit contents, several activities that address the goals and objectives, and wherever needed, lecture notes and handouts.

The fourth volume, Sexuality Education: A Curriculum for Parent/Child Programs, is based upon the parent/child program which increased knowledge and parent/child communication. The curriculum includes several suggested course outlines and the following units: Introduction to Course; Anatomy, Physiology, and Maturation; Gender Roles; Sexually Transmitted Diseases; Reproduction; Adolescent Sexuality; Birth Control; Parenting; and Review. Each unit contains several activities and, wherever necessary, lecture notes and handouts.

The fifth volume, Sexuality Education: A Handbook for Evaluating Programs, is based upon the methods we used and our experiences in evaluating these programs. It discusses the need for evaluation of sexuality education programs; selection of program characteristics and outcomes to be measured; experimental designs; survey methods; questionnaire design; and procedures for administering questionnaires, analyzing data, and using existing data.

A sixth volume, Sexuality Education: An Annotated Guide for Resource Materials, reviews books, films, filmstrips, curricula, charts, models, and games for youth in elementary school through high school. For each resource, the guide lists the distributor, length, cost, and recommended grade level, and provides a discussion of the material. This volume differs from the others in that it was not funded by the government and is not part of the final report. However, it will be useful to people developing programs.

CHAPTER 2

AN OVERVIEW OF SEXUALITY EDUCATION IN THE UNITED STATES

This chapter provides an overview of sexuality education in the United States. It describes the need for sexuality education, the major kinds and characteristics of programs, and the more recent major trends in sexuality education. Chapter 3 reviews the literature on the effects of sexuality education.

Teenagers' Need for Effective Sexuality Education

Young people have a wide variety of needs and problems relating to their sexuality. A prominent problem is unintended pregnancy. Each year approximately 1.1 million girls between the ages of 10 and 19 become pregnant. This means that each day of the year, on the average about 3,000 girls become pregnant. Moreover, more than one-third of all girls become pregnant before they become 20. Although some of these girls marry first and then become pregnant, the vast majority of them become pregnant when they are not married.

Overall, the consequences of these pregnancies are tragic. More than 500,000 teenagers each year give birth, and their babies show more health problems and intellectual deficiencies than babies born to older women. In addition, these teenage mothers complete two fewer years of school than their unmarried counterparts, and consequently earn substantially less for years to come. Some teenage mothers decide to marry the men involved, but this potential solution also has negative outcomes. These couples are still less likely to complete their schooling, and their marriages are more likely to end in divorce than marriages not motivated by an early pregnancy. As a result of these and other factors, teenage mothers are far more likely than other mothers to become poor and dependent upon welfare.

Each year more than 400,000 teenage girls choose to terminate their pregnancies through abortion. These abortions have physical, emotional, and social consequences for some of the adolescent girls. The abortions also generate divisive controversies in many communities across the nation.

Although pregnancy is dramatic and visible, other problems related to adolescent sexual activity are more subtle, but still more common and often more enduring. Adolescence is a time of many changes -- both physical and emotional -- which are commonly a source of real anxiety. Adolescents' bodies are changing rapidly. Their sexual feelings are increasing. Their identity is in question; they are asking, Who am I? What is my place in the world? What do I believe? Do boys (or girls) think I'm cute (or good looking)? Do they like me? Am I normal?

Many adolescents feel they are different, feel little control over what happens and feel vulnerable to peer pressure and exploitation. At the same time, in their effort to develop a sense of self and independence, they are moving away from their families toward their peers, often straining relationships with their parents.

By the time young people complete their teenage years, they have observed thousands of hours of television, hundreds of movies, innumerable advertisements, and many magazines and they have listened to a great many popular songs on the radio. These media undoubtedly give them conflicting messages about sexuality. For example, some young people learn that being in love is always romantic and never hard work; that sex goes hand in hand with surfboards, smiles, fireplaces, champagne, beauty, rhythmic music, drugs, excitement, and fun; that men and women fall into bed without ever discussing their feelings, their expectations, potential consequences, or birth control. Thus, adolescents learn many incorrect and conflicting messages.

If many adolescents were to turn to their parents, they would encounter their own and their parents' embarrassment. In a variety of subtle ways, most parents instruct their children that sexuality is not a topic to be discussed. Most parents do not tell their children anything about sexuality -- not even the basics of sexuality, sexual function, menstruation, nocturnal emissions, intercourse, masturbation, etc. If teenagers were to ask important questions, their parents would be most uncomfortable.

When adolescents turn to their peers, they often rely upon gossip, rumors, assorted revelations of fact and myth, posturing, and misunderstanding. For example, they learn incorrectly that virgins can't use tampons, that a girl can't get pregnant the first time, that "everyone" is doing it, that guys uninterested in sex must be gay, etc. Adolescents also lack communication skills and have great difficulty expressing their feelings and beliefs about themselves and about sexuality with their girlfriends or boyfriends.

Consequently, there are the many frustrations and lowered self esteem resulting from the inability to express feelings, to make effective decisions, and to facilitate healthy relationships. There are the many cases of adolescents submitting to pressure from peers or potential sex partners, having sex, and then experiencing guilt, dissatisfaction, and sometimes pregnancy. Some of these problems also produce sexual dysfunctions and more commonly reduce sexual enjoyment in adult life and thereby add stress to marriage. There are also the lowered goals, limited careers, and other limitations resulting from the subtle assumptions and decisions adolescents make about appropriate roles for themselves as men and women. These can greatly influence their choices about their careers, relationships, marriage, and parenting.

Sex education or family life education in the schools has been viewed by many as a partial solution to some of these problems. Claims for sex education should not be exaggerated, however, because even the best sex education programs occupy and influence only a small proportion of students' lives. Nevertheless, previous studies have suggested that some sexuality education courses can have some positive effects upon young people (See Chapter 3).

Goals of Sexuality Education

Educators initially tried to change behavior by replacing ignorance with correct information. However, they realized that young people not only needed correct factual information; they also needed clearer insight into themselves, their beliefs and their values. Educators also recognized that many of their behavior goals also required many skills that young people often lacked.

Consequently, the goals of sexuality educators now include changes in knowledge, attitudes, skills, and behavior. A sampling of them follows:

- to increase accurate knowledge about sexuality
- to help adolescents make informed choices
- to counteract inaccurate or misleading messages from peers and the media
- to facilitate insights into personal, social, and sexual behavior
- to prepare preadolescents and adolescents for the physical, emotional, and social changes that will take place in their lives
- to reduce anxieties and fears about personal sexual development and feelings
- to increase understanding of family values and religious and societal values
- to help adolescents question, explore, and assess their sexual values so that their behavior will be more consistent with those values
- to increase understanding and respect between the sexes
- to increase the equality of opportunity and responsibility between the sexes
- to improve decisionmaking skills and to make decisionmaking more responsible
- to improve communication skills
- to increase comfort in communicating thoughts and feelings about sexuality
- to increase communication about sexuality with parents, friends, and significant others
- to facilitate rewarding sexual expression
- to enhance skills for better handling social and sexual independence
- to develop skills for the management of sexual problems
- to reduce sexual exploitation
- to reduce unwanted, irresponsible, or self destructive sexual activity
- to encourage abstinence until young people are older and better prepared for sexual activity
- to reduce unprotected intercourse and unintended pregnancies
- to reduce sexually transmitted disease
- to enhance self esteem
- to enhance interpersonal relationships
- to make adolescents better equipped for adult life

Most sexuality educators would agree with most of these goals; also many would undoubtedly add a few, delete a few, or revise a few. In general, most of these goals have become increasingly prevalent and increasingly accepted in both school and nonschool programs. Shorter programs are more likely to focus upon only a few; more comprehensive programs cover more of them.

Most of these goals have an important characteristic--they are incredibly broad and difficult to achieve. Both schools and other youth organizations are often successful at increasing knowledge about some topic, but in general they have difficulty changing attitudes, teaching difficult social skills, or changing behavior in any realm of education. Because most of the goals involve attitudes, skills, or behavior, they are far more difficult to achieve.

These goals have clearly changed over the years. Many years ago, the primary emphasis was upon preparing girls for menstruation and teaching both sexes about preventing venereal disease. Several years ago, programs placed much more emphasis upon encouraging a more positive attitude about sexuality and reducing unintended pregnancy. As programs have become more conservative, they have placed less emphasis upon encouraging a positive attitude. They still place considerable emphasis upon reducing unintended pregnancy, but as educators have more fully comprehended the difficulty of achieving that goal, they have tended to focus much more upon a wider variety of goals. For example, there is more emphasis upon the broader dimensions of sexuality such as gender role development, body image, romantic relationships, and family formation and upon preparing youth for the numerous social and sexual decisions in adolescent and adult life.

This greater breadth has contributed to the change in name. Because many people perceive sex education more rigidly and narrowly to mean sexual intercourse, pregnancy, birth, and sexually transmitted disease, and because programs now cover much more than this, educators now refer to "sexuality" education instead of "sex" education.

This greater breadth is demonstrated by a survey conducted by the National Institute of Education in 1978. It asked teachers of separate sex education courses to specify their goals for their course. About 42 percent specified increasing factual knowledge, 26 percent specified helping students make responsible choices, 24 percent mentioned reducing teenage pregnancy, 19 percent mentioned promoting self-image, and 13 percent specified reducing teenage problems (including teenage pregnancy) (Orr 1982).

Values in Sexuality Education

In previous years sex educators prided themselves on being value free. Because different groups of people in this country have different views and values about sexuality, these educators avoided taking a stand on specific issues in order not to influence the children and not to offend any of the groups. Instead, they presented the steps of the decisonmaking process and accurate information about the consequences of different sexual activities, and then through values-clarification and decisionmaking exercises, they encouraged the students to reach their own decisions.

However, many educators and programs were attacked for not presenting values, for talking about sex without morals, and for not telling students that certain kinds of sexual behavior are wrong. These admonitions, however, did not specify how to resolve the problem of which values to emphasize. Educators gradually realized that there are basic values in our society that are almost universal--at least most people in our society support them.

Although educators and others still differ, the following beliefs and values are emphasized by many educators:

Values about Programs

- Programs should be developed and implemented with the knowledge and approval of parents, community professionals, clergy, and youth.
- Participation in programs should be voluntary; organizations should provide good alternatives for those students who don't participate.
- Programs should treat each person as unique and as directed by a set of values, beliefs, and feelings that are uniquely his or her own; they should recognize that in a democratic pluralistic society, participants will have a wide range of values and these should be respected.
- Programs should give accurate information to young people so that they can make better decisions.
- Programs should help participants understand societal values and clarify their values so that their behavior will be more consistent with those values.
- Programs should help participants communicate about social and sexual matters with others so that their relationships will improve.
- Programs should help parents and their children communicate with one another so that parents can better be the primary educators of their children.

Values about Behavior

- Sexuality is an integral part of life from birth to death.
- People have the right to engage in sexual behavior consistent with their values, provided that behavior does not hurt others.
- All people should be treated with respect and dignity, regardless of their race, sex, class, culture, religion, sexual orientation, or other characteristics.
- Gender does not determine a person's worth and should not restrict rights and responsibilities.
- People should carefully consider the current and future consequences for themselves, others, and society before making important decisions.
- People should take responsibility for their decisions.
- Before making a decision to engage in sexual activity, adolescents, particularly younger ones, should realize that sexual activity may lead to unwanted problems.
- No one should use either subtle pressure or physical force to get someone else to engage in unwanted sexual activity.
- No one should take advantage of or exploit others.
- Because parenting requires numerous skills and long term commitments and responsibilities, young people should be especially responsible about becoming a parent.
- Both sexes should act responsibly to prevent unwanted pregnancy.
- No one should knowingly spread sexually transmitted disease; anyone infected should take appropriate steps to inform all sexual contacts.

Providers of Sexuality Education

For years the major providers of sexuality education have been those organizations primarily involved with educating youth, namely schools, and those organizations primarily involved with helping youths prevent or deal with pregnancies, namely family planning clinics. This is undoubtedly still true; schools provide by far the most sexuality education and Planned Parenthood and other family planning agencies provide the second greatest amount.

However, there have been a few changes. Whereas high schools used to provide nearly all the school programs, increasingly junior high schools and even elementary schools now offer programs. In 1982 a survey by the Urban Institute of metropolitan area school districts revealed that 75 percent of the school districts offered sexuality education in their high schools, 75 percent also offered it in junior high school and two thirds offered it in elementary school (Sonenstein and Pittman, 1982). The programs are, of course, modified appropriately for the younger ages. Second, a larger number and wider variety of organizations now offer sexuality education. For example, the YWCA, YMCA, Girls Clubs, Boys Clubs, Girl Scouts, and many liberal and conservative churches are either offering or developing programs.

Popular Organizational Structures

Short programs. Most programs in this country are relatively short. According to data collected by the National Institute of Education (NIE) in 1977, about 10 percent of programs last less than 5 hours and about 65 percent last between 5 and 20 hours (Orr, 1982). The majority of these are probably closer to 5 hours than to 20 hours. According to a survey of 179 urban school districts conducted by the Urban Institute in 1982, about 48 percent of the programs last 10 hours or less and another 39 percent last 11 to 40 hours (Sonenstein and Pittman, 1982). These short courses may cover superficially a variety of topics, but they tend to focus on the basics: anatomy and physiology, changes during puberty, decisionmaking about dating and sexual behavior, the consequences of sexual activity and parenthood, birth control, and sexually transmitted disease. Some of these topics may be omitted, depending upon the grade level of the students. The small number of sessions makes it easier for schools to fit the instruction into other courses such as health. Moreover, the small number of sessions makes it easier for nonschool organizations to maintain attendance at their programs.

Comprehensive programs. A small number of schools offer comprehensive semester long programs. According to Orr (1982), about 8 percent of schools offered courses longer than 40 hours in 1978. According to Sonenstein and Pittman (1982), about 14 percent of school districts offered courses lasting longer than 40 hours in 1982, and 16 percent of high schools offered separate courses in sex education. However, in school districts with comprehensive sexuality education, not all the schools actually offer such programs. Moreover, in schools with comprehensive courses, not all students take the courses. Thus, these studies suggest that fewer than 10 percent of all students take comprehensive courses.

Comprehensive programs obviously require a considerable amount of time and very well trained educators. These programs cover the basic topics in much greater depth and also cover a wider variety of topics. They typically include cognitive, affective, and skill components, and rely more upon group discussions and role-playing. They devote time to clarifying values, increasing decisionmaking and communication skills, improving self esteem, and making behavior more responsible.

Conferences. Some nonschool organizations and even a few schools find it easier to provide the content of a short program in a single day, instead of dividing it over several days. Some groups use the same curriculum in both their short multi-session programs and in their conferences. Other groups bring together a larger number of students in a meeting hall, and then bring in more expensive outside resources (e.g. well known personalities or acting groups) which would be inappropriate for the individual classroom.

Peer education. These programs give selected leaders or students in the school about 30 hours of instruction on sexuality, educating, and counseling. These educators in turn talk with their peers in the school, answer questions when stopped in the hallways or elsewhere, refer students who need help to other resources, and occasionally give presentations to school classes or other youth organizations.

Parent/child programs. Educators are increasingly trying to help parents communicate their beliefs and values to their children. Some groups bring parents and their children together for about six sessions in the evening. During these courses, the instructors provide accurate information to both parents and children, suggest techniques for better communicating outside of the classroom, and also facilitate a variety of activities in the classroom involving parents with their own or other children.

Clinic linked programs. One widely respected program provides both education in the school classroom and health and contraceptive services in the school clinic. The clinic staff lecture in the classrooms, counsel students in the clinic, conduct gynecological exams for those students needing medical methods of contraception, make referrals to a hospital for the prescriptions, meet with the students at the hospital, and then do follow-up checkups for the students back in school. This approach has substantially reduced pregnancies and is currently being replicated in various schools throughout the country.

Topics

Although no one has systematically examined the sexuality education curricula of elementary schools, many educators have commented that very few elementary schools cover sexuality education in the earlier grades. However, those that do, typically focus upon the correct names for body parts, reproduction in animals, family roles and responsibilities, basic social skills, and self esteem. In the fourth or fifth grades, many schools provide a unit on menstruation for girls. Only a very few schools cover social interaction with the opposite sex (e.g., dating or intercourse).

In junior high school an increasing number of schools cover anatomy, the physical and psychological changes of puberty, reproduction, dating, going together, responsibilites in interpersonal relations, and sexually transmitted disease. A smaller, but increasing number, also cover contraception, especially if there are many sexually active and pregnant adolescents in the school.

High school programs, especially comprehensive ones, include a wide array of topics. In Table 2-1 are the percentages of separate courses that cover each topic. NIE collected these data in 1978 (Orr 1982).

Table 2-1

Percentages of High School Sexuality Educators Covering Selected Topics

97%	Sexually transmitted disease
96%	Pregnancy and childbirth
91%	Changes at puberty
90%	Anatomy and physiology
90%	Dating
90%	Drugs, alcohol, and sex
90%	Teenage pregnancy
85%	Sexuality and personality
82%	Love and marriage
78%	Common myths
78%	Contraceptive methods
78%	Abortion
77%	Fertility
77%	Family planning
73%	Abortion alternatives
70%	Moral values
65%	Avoiding unwanted sex
64%	Rape
53%	Masturbation
53%	Homosexuality
45%	Sex and the law
42%	Sex and the media
40%	Sexual dysfunction
39%	Religious values
39%	Sexual exploitation
6%	Sexual techniques

These data indicate that most programs cover a wide variety of topics. Moreover, most of them do deal with the more controversial topics such as birth control. Unfortunately, the questionnaires did not measure how thoroughly these topics were covered. Given that many of these programs are short, they must cover most of these topics superficially. The questionnaires also failed to include decisionmaking and communication skills; many of the longer programs probably included them.

Program Activities

As educators have broadened their goals from imparting factual knowledge to exploring and clarifying values, improving decisionmaking and communication skills, increasing self esteem, and changing behavior, they have also developed a wider variety of educational techniques. In the more comprehensive programs teachers lecture, lead large group discussions, break the class into small group discussions, have students practice communication skills in dyads, facilitate brainstorming, set up role playing situations, show films and filmstrips, invite guest speakers, and provide structured written exercises which require participants to rank order their priorities, analyze the advantages or disadvantages of different actions, solve dilemmas, etc. Of course, shorter courses cannot employ all of these experiential activites. In the NIE survey of sex education courses, Orr (1982) found that 87 percent of the high school teachers lectured, 85 percent used group discussions, 80 percent led question and answer sessions, 72 percent showed media, only 46 percent used small group discussions. Only 6 percent used only one method, primarily lectures.

Resource Materials

Several years ago there were relatively few films, textbooks, or other materials for sexuality education. However, this has completely changed. There are now more than one hundred books and innumerable pamphlets dealing with some important aspect of sexuality. These books range in perspective from the very conservative to the very liberal. There are more than two hundred films and a greater number of filmstrips. Students can watch on film other teenagers struggle with whether to date someone older, whether to have sex, what to do when pregnant. Students can view an egg move down the fallopian tube; they can see diagrams of the correct methods of using different methods of birth control; they can observe the effects of sexually transmitted disease. These films both engage and inform viewers. There are also various anatomical models with varying degrees of realism. Students can study three dimensional models of the developing fetus, examine a human torso with removable parts, or check for cancerous cysts in a life-like female breast. There are charts for the menstrual cycle, charts showing fetal development, flip charts for different methods of birth control, guides to sexually transmitted disease. Finally, there are activities and games to dispel sexual myths, to help clarify values, to facilitate communication with parents or peers, and to model the experience of parenting a small child. In fact, there are more than one hundred different groups continually producing new and updated materials.

With such a large number of materials, the problem has shifted from searching for non-existing materials to keeping up with the latest materials and selecting the best. Consequently, educators have written numerous annotated guides to resource materials.

Moreover, these materials are frequently used. According to Orr (1982), 86 percent of high school teachers used commercially developed materials.

Teacher Characteristics

According to Orr (1982), in 1977, 56 percent of high school sexuality education teachers are male, and they are slightly older (with a mean age of 38) than other teachers (with a mean age of 36). Almost half have teaching credentials in physical education, and many others have credentials in home economics, science, and social studies. These figures probably do not include the many people from Planned Parenthood or other youth agencies that give presentations in schools, and thus they may be somewhat misleading. For example, the people from agencies are more likely to be female.

There have not been any major studies that have analyzed changes in sexuality educators. However, numerous educators have noticed changes in other sexuality educators. Many of these changes are a manifestation of the changes in our society in general. Our society seems to be becoming more conservative in its views about adolescent sexual behavior. This seems to be true of sexuality educators who are increasingly more conscious of the very practical problems associated with adolescent sexual behavior. Moreover, as it has become easier for all people (and in particular educators) to discuss sexuality, as sexuality programs have increased in number and expanded, and as communities have played an increasing role in developing programs, sexuality educators have increasingly become more moderate or conservative, and they now more closely mirror their communities.

Many sexuality educators have also become increasingly professional. They attend professional meetings; they receive better training at workshops; they read more of the expanding literature; they apply the expanding body of knowledge and research to their courses; they ask important and sometimes critical questions about sexuality education; and they apply relevant theories from other fields.

However, as the number of sexuality courses expands, new teachers continually join the field. Initially many of them are not well trained, and they need training, curricula, and other materials.

Training for Sexuality Educators

During the last few years there has been substantial growth in training for sexuality educators; more organizations have offered training, they have trained more teachers and other school professionals; they have improved the quality and professionalism of the training.

The efforts of ETR Associates in California quite vividly demonstrate this. Between 1979 and 1982 that single organization trained more than 1100 teachers, school officials, other school personnel, parents, and community members in 100 school districts in California. During the following academic year, ETR trained personnel and parents in an additional 30 school districts.

As training programs have expanded, they have also become more focused and specialized. For example, ETR provided three different training programs for the school districts. The first was designed for both community members and school personnel and lasted 2 1/2 days. It provided practical guidelines for developing community involvement and support, designing and scheduling curricula, and selecting appropriate teachers.

The second was designed for teachers or other personnel selected to teach sexuality education, interested school officials, and interested parent leaders. Lasting five days, the program reviewed the content of courses, examined religious and moral viewpoints, modeled effective teaching techniques, increased teachers' skills in discussing sensitive subjects, enhanced teachers' abilities to support parents as the primary sexuality educators of their children, and presented materials.

The third was designed for teachers, nurses, counselors, or health educators who had considerable expertise in sexuality education and who would become district trainers. That is, they would train other teachers in the district. Lasting 5 days, this program provided a specific step-by-step process for developing and implementing a locally approved teacher training program, demonstrated and critiqued model training formats, and practiced and reviewed training skills.

Similarly, the Population Program at the Baylor College of Medicine in Houston, Texas helped implement programs by training trainers from the local school districts who then remained as valuable resources to the school districts.

Other groups, such as AASECT (American Association of Sex Educators, Counselors, and Therapists), Girls Clubs, Planned Parenthood, and Title X programs, have provided considerable amounts of training.

In general training has shifted away from an earlier SAR (sexual attitude reassessment) approach which focused upon exploring professionals' attitudes, making them more comfortable, desensitizing them, and teaching tolerance for differing values. While SAR's are still offered, they are rarely a component for school teachers or youth workers. Instead there is now a greater emphasis upon providing practical guidelines, suggestions, and materials for teaching.

Amount of Sexuality Education in Schools

In 1976, Zelnik (1979) conducted a large and excellent study of American teenagers aged 15 - 19. That study indicated that 67 percent had had some sexuality education instruction in school and that 49 percent had had instruction on contraception.

Two years later, Gallup (1978) reported that only 43 percent of 13 - 18 year old teenagers had had some sexuality education in school; 31 percent had had instruction which included contraception. Also in 1978, Bachman, Johnston, and O'Malley (1980) surveyed high school seniors and found that about 60 percent had had a unit on sexuality education and slightly more than 50 percent had covered contraception.

A year later in 1979 Zelnik and Kim (1982) completed another study of teenagers. It focused upon females aged 15 - 19 and males aged 17 - 21, all from metropolitan areas. It revealed that 77 percent had taken a course related to sexuality education.

In sum, these percentages vary somewhat, but part of this variation is due to the fact that some of the studies are based upon slightly younger populations who are less likely to have had sexuality education, and others upon older populations more likely to have had sexuality education. In general they indicate that between 60 and 75 percent of students receive at least a small amount of sexuality education by the time they graduate from high school. However, these figures do not provide information on the comprehensiveness or other characteristics of these programs.

In 1977 the National Institute of Education surveyed a random sample of 1,448 U.S. high schools and found that 36 percent of them offered a separate course in sexuality education (Abramowitz et al 1978). About half of the four year high schools offered sexuality education to the 9th graders; about 81 percent of the three year high schools offered sexuality education to the 10th graders (Orr 1982).

In an excellent study of 179 school districts in cities with a population of 100,000 or more, the Urban Institute found that 80 percent of the school districts offered sexuality education in one or more schools, 75 percent of them offered it in high school, 75 percent offered it in junior high school, and two-thirds in elementary. About 25 to 35 percent of these programs were developed between 1976 and 1982. In districts that offered instruction, 76 percent of the students in the junior and senior high schools actually received the instruction.

The Process of Developing Programs

In years past, many, but not all, sexuality education programs were developed without substantial community input. Health education teachers or other teachers sometimes taught a small unit on sexuality after obtaining the approval of the principal, but without building a broad base of support. Sometimes these teachers would teach the unit themselves; other times they would have someone from a family planning clinic or youth agency teach in the classroom for several periods. Although this process helped get sexuality education into many classrooms and provided needed instruction to many adolescents, it nevertheless often made expansion of the program more difficult-- expansion sometimes motivated people opposed to the program rather than people supportive. Occasionally, this process led to an active opposition, and without a broad base of support the program collapsed.

Currently there is much greater emphasis placed upon involving the parents and community from the very beginning, and having them play a major role in designing the program's goals, structure, and basic curriculum. Often when a modest program is implemented and found to be successful, the community then expands the program and makes it more comprehensive. This process is demonstrated by Orr (1982). She found that when parents are involved in development, the resulting programs include both more topics and more controversial topics, and are equally likely to include contraception.

There are at least three reasons for the change in this developmental process:

- Sexuality educators increasingly recognize that parents and the community have a right to be involved in the development.
- Educators increasingly want to enhance the role of parents in educating their children, and having parents involved in the development of the program may facilitate that parent role.
- This process works--that is, it has led to the successful development of many programs.

Support for Sexuality Education

In most communities sexuality education programs are developed with the support of the community and without opposition. However, in a few communities, sexuality education is very controversial and becomes the source of considerable community conflict. This raises the question, how much support is there for sexuality education?

Sexuality educators have realized over the last decade that a fair number of people raise legitimate concerns and that these concerns should be seriously considered and resolved when developing and implementing programs; but the number of people who are opposed to any type of sexuality education represent a very small, although sometimes vocal minority. A variety of national studies and other evidence support this contention.

The Gallup Poll has asked U.S. adults for almost 40 years if they approve or disapprove of sexuality education in public schools. In 1943, the first year they asked, nearly 70 percent approved of such courses. In 1977, the support had risen to 77 percent (Gallup 1980). Eighty percent of adults felt sexuality education should be offered with parental consent (Gallup 1980). In a September 1981 poll, 79 percent of parents favored sexuality education while only 17% opposed it. Among nonparents, 66 percent favored it.

The National Opinion Research Center (NORC) at the University of Chicago conducted several national studies between 1970 and 1977. In 1970, 56 percent favored sexuality education in public schools; in 1977, 77 percent favored sexuality education.

Finally, the National Broadcasting Company reported on the Today Show (October 8, 1981) the results of their national poll. It indicated that 75 percent of adults approve of sexuality education, 67 percent believe sexuality education provides a healthy view of sexuality, and only 12 percent believe instruction increases sexual activity.

In sum, different organizations in different polls in different years have consistently shown that a substantial majority of the American public does support sexuality education in schools.

Even though most adults favor sexuality education in general, they may not necessarily support the inclusion of topics as controversial as contraception. To determine this, the Gallup Poll asked whether contraceptive information should be discussed in the classroom. Seventy percent of adults agreed that it should be offered (Gallup Poll 1978). NORC asked a similar question, and found that in 1974, 78 percent believed it should be offered and in 1977, 82 percent (Smith 1980).

A different kind of evidence for support comes from parents. Many programs require either parental notification or parental consent for their children's participation in a program. If parents request, their children are placed in a different classroom and given alternative instruction while the sexuality education material is being covered. No one has systematically sampled school districts to determine the exact percentage of parents that so request. However, innumerable school districts have reported informally that fewer than two percent of the parents request the alternative class.

Such figures are also consistent with the surveys conducted of parents whose children have completed the program. Overwhelming majorities of the parents favor the program and believe it has helped their children (c.f. Cooper 1982).

As one might expect, adolescents strongly support sexuality education in school. Norman and Harris (1981) surveyed about 160,000 teenagers. Although the sample was not random, the responses of these teenagers are probably indicative of most teenagers. Of those teenagers who had taken sexuality education, 42 percent thought it was helpful, while 58 percent thought it did not cover enough, the teacher was too embarrassed, or the course didn't "cover it straight." The vast majority of the teenagers wanted more information. More specifically, they wanted information earlier (including in elementary school); they wanted more information on the emotional aspects of sex, not just on the biological aspects; and they wanted coed classes with group discussions between the sexes. In this and other studies, very rarely do any teenagers express the view that sexuality education should not be covered in school.

The increasing support for providing sexuality education in the schools is also demonstrated in the political process. Gradually state guidelines for sexuality education have become more supportive. Maryland, New Jersey, and the District of Columbia now require sexuality education in schools. Twenty-three other state boards of education encourage local school districts to offer sexuality education. The other states leave the decision to offer sexuality education to the local school boards. Now that Louisiana has dropped its prohibition against including sexuality topics in school instruction, none of the states prohibits sexuality education in schools, although seven states discourage and one state prohibits instruction on specific topics (Kirby and Scales 1981). Twelve states and the District of Columbia recommend that contraception be taught, while only four states discourage contraception from being taught (Kirby and Scales 1981).

Finally, when sexuality education does become a source of conflict within communities, the programs are often improved. According to a national study of school superintendents (Hottois and Milner 1975), only five percent of existing programs were eliminated following controversy, but more than 50 percent were expanded following controversy.

In sum, sexuality education does appear to have the overwhelming support of the American public, that support continues to grow, and it is manifested in the political process.

Conclusion: A Maturing of the Field

The changes in sexuality education suggest that it has matured greatly in the past five years. As discussed above, more parents and community members have become involved in program development; goals have become broader; the topics covered have become more accepted; the teachers have become both more conservative, more respectful of parental concerns, and better trained; sexuality educators have begun asking important and critical questions about sexuality education, and no longer label those who raise critical questions as opponents; it is taught in more schools to ever increasing numbers of adolescents; it is taught in an increasing variety of nonschool youth organizations; in many communities it has lost its novelty; materials are both more numerous and better; and more people evaluate and then improve their programs. All of these changes do represent a maturing of the field. It is less defensive and more successful. There is still much work to be done, but educators and others have contributed greatly to the field in the last few years. It has been changing rapidly, but is now stabilizing somewhat, becoming moderate, and becoming more mature. Perhaps it has just passed through adolescence?

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CHAPTER 3

THE EFFECTS OF JUNIOR AND SENIOR HIGH SCHOOL SEX EDUCATION PROGRAMS: A REVIEW OF THE LITERATURE

Many sex educators have established for themselves truly formidable tasks. They have described many goals for sex education programs including changes in the students' knowledge, attitudes about sexual matters, self perceptions, decisionmaking and communication skills, social and sexual behavior, and levels of comfort with these behaviors. These goals are extremely demanding, and in many respects it is unfair to judge sex education programs by the degree to which they meet all of these goals.

The ambitiousness of these criteria can be demonstrated by comparing them to the criteria used to evaluate other courses. For example, health classes are not evaluated by measuring their impact upon the students' eating habits, the amount of smoking in the school, the number of times students brush their teeth, nor the number of cases of illness in the school. Similarly, civics classes are not evaluated in terms of their ability to make better citizens out of the students even though this may be an implied goal, nor are English classes evaluated in terms of their ability to change the reading and speaking habits of students outside of class. In contrast to many other educators, sex educators have recently recognized and assumed the responsibility of evaluating their influence on the students' lives outside of the classroom.

For two primary reasons, changing the sexual behaviors of the students is especially difficult for sexuality educators. First, students receive an enormous amount of information about sexuality from their peers, their parents, television, magazines, and other sources. Second, the sexual behavior of students is also strongly influenced by their own emotional, social, and sexual needs. Thus, it may be unrealistic to expect young teenagers who take a brief unit or even one full semester's course in sexuality to suddenly overcome fifteen or so years of subtle or explicit sexual activity in the media, double standards in our culture, internalized conflicts and guilt about sexual behavior, and to become more sexually responsible.

Because these difficult goals have been proffered for sex education, the extent to which sex education programs meet them will be examined. However, the programs should not be unduly criticized if they do not meet these difficult goals.

Methods Employed in the Empirical Studies

Experimental Designs

The most common method of analyzing the effects of sex education programs utilizes an experimental or quasi-experimental design. The sex education class is considered the experimental group and some other class or group of students is considered the control group.

The studies using an experimental or quasi-experimental design have two major strengths. First, by comparing the change in scores of the control group with the change in the experimental group, various types of errors can be eliminated or controlled. For example, if a control group were not used, then it would be difficult, if not impossible, to determine whether the changes that occurred in the experimental group were produced by the course or by natural maturation processes. Second, an experimental design can be used naturally in the classroom setting. That is, when students take a pretest, complete the course, and then take the posttest, this resembles their normal testing routine and appears natural.

However, these experimental studies contain several weaknesses which limit the validity of their conclusions or generalizations based upon them.

- In most of the studies, evaluators are rarely able to randomly assign students to the experimental and control groups. This problem is accentuated by the fact that students who choose to take sex education classes are sometimes different from those who do not. Because of other curriculum requirements, college-oriented students may be less likely to take sex education classes which are usually elective. Sex education students may also have different values and behaviors and may be more or less receptive to changing their attitudes and behaviors.

- Very few of the studies measure the long term effects of the course. Some effects of the course may not become apparent until the students engage in sexual activity months or years later; other effects are attenuated by the passage of time, as behavior is increasingly influenced by other intervening events.

- Questionnaires used in evaluations often exclude questions about some of the most important outcomes of programs such as communication with parents, self esteem, sexual activity and use of birth control. Moreover, some questionnaires are not carefully pretested and measure poorly those outcomes which they do measure. Few studies report reliability or validity coefficients.

- Many of the studies report the statistical significance of the findings, but few of them provide good indicators for the magnitude of the change, and few of them focus upon the practical importance of that change. For example, the mean score of a class on some outcome may increase from 3.5 to 3.6 and this may be statistically significant, but that small change may not be very important.

- Most of the studies evaluate single programs which have not been randomly selected. For example, some courses may be selected for evaluation because they have unusually charismatic teachers or appear to be unusually successful. Moreover, if programs are evaluated and are found to be successful, then the evaluators are more likely to write up the results and journals are more likely to publish the results; if programs are not found to be successful, the evaluators are less likely to write up and publish the results. Thus, the literature may describe the successes, but not the failures.

- Discussions of evaluation results also tend to focus upon those measured outcomes which do change, and not upon those which do not. Thus, the studies may indicate that programs have greater impact than they actually have.

Surveys

A second, but less common method of analyzing the effects of sex education programs employs survey methods. Unfortunately surveys cannot easily control for all other confounding factors such as normal maturation processes. Moreover, some surveys have not asked a sufficient number of questions about the sexuality education course for the researcher to know how much sexuality education was actually taught. On the other hand, large surveys based upon random samples of youth throughout the country can give a more general picture of sexuality education throughout the country than can more rigorous evaluations of a small number of programs that were not randomly selected. Of those studies using survey methods, only the national surveys are discussed in this article.

Impact upon Knowledge

Despite frequent criticism levied against schools, schools have demonstrated their ability to effectively increase the knowledge of most students. Thus, one would expect that sex education classes, like other classes, would improve the knowledge of the participants. This expectation is supported by the empirical literature.

Numerous studies of high school classes have measured the impact of sex education courses upon the knowledge of the students and their findings are nearly unanimous--instruction in sex education does increase knowledge of sexuality (Angrist et al, 1976; Brann et all, 1979; Coates, 1970; Cooper, 1982; Crosby, 1971; Duehn and Mayadas, 1977; Finkel and Finkel, 1975; Garrard et al, 1976; Gumerman et al, 1980; Herold et al, 1973; Hoch, 1971; Kapp et al, 1980; Kolesnik, 1970; Lamberti and Chapel, 1977; Marcotte et al, 1976; Mims et all, 1974; Monge et al, 1977; Neubeck and Maison, 1979; Parcel and Luttman, 1979; Perkins, 1959; and Reichelt and Werley, 1975). In some cases the increase in knowledge was quite small; in other cases quite large.

Moreover, these studies also indicate that in general courses can effectively teach almost any appropriate sexual topic. A few studies also indicate that courses can increase not only factual knowledge, but also understanding of self. For example, Klein (1982) found that about a year after completing a course, students claimed that they had a better understanding of their emotional needs, their long term goals, their sexual feelings, and their bodies. Thus, there appears to be nothing exceptional about sexual material that prohibits students from learning factual material and gaining insight.

Most of these studies employed an experimental design. Thus, this evidence appears quite persuasive. However, the methodological limitations of these studies should be remembered -- in particular, most of the programs evaluated were carefully selected, and rarely were long term effects evaluated. In addition, another bias may have affected these studies. Typically they are based upon knowledge tests designed by the teacher, and not upon standardized knowledge tests. Because such tests are most likely to cover those facts emphasized by the teacher, they are likely to exaggerate the amount learned.

Only two studies (Spanier, 1976; and Wiechmann and Ellis, 1969) found no impact of sex education upon subsequent knowledge. Both these two studies had serious methodological weaknesses: they were surveys which failed to control for important potentially confounding factors and they failed to measure many important characteristics of the sex education course. On the other hand, the surveys were administered well after most students completed their sexuality education courses, and thus they may have better measured the long term impact of courses.

The studies demonstrating success describe many different programs with different structures (e.g., one week units, semester courses, lectures and rap sessions). According to the literature, nearly all of these courses are successful in imparting new knowledge. Ideally, the literature would demonstrate which course structures or characteristics are most effective. Unfortunately, one cannot make these types of comparisons, because the studies are not comparable. They use different knowledge tests, examine different populations of teenagers or adults, etc.

Sex education's apparent success in increasing knowledge should be emphasized and applauded. In general, our society approves of greater knowledge and assumes that greater knowledge facilitates more responsible decisionmaking. Moreover, numerous studies (Goldsmith et al, 1972; Presser, 1974; Shah et al, 1975; Sorensen, 1973; and Zelnik and Kantner, 1977) indicate that many teenagers lack needed information about reproduction and contraception, and some of these studies have demonstrated that one major reason that teenagers do not use contraception is that they incorrectly believe they cannot or will not become pregnant. Greater knowledge should help dispel some of these myths.

Nevertheless, greater knowledge will not necessarily cause teenagers to make better decisions. Studies in the field of sexuality and other health areas indicate that the link between knowledge and actual behavior may be a weak one. These studies strongly indicate that evaluators should also study programs' impacts upon attitudes and behavior.

Impact Upon Attitudes

Several researchers have examined the effects of sex education courses upon the students' attitudes.

Studies by Cooper

Cooper and other staff at ETR Associates (1982) completed one of the largest studies to date on the impact of programs upon attitudes, values, and skills. They developed junior and senior high school curricula and then trained teachers who in turn taught more than 17,000 junior and senior high school students in California during the years 1979-1981. Both the junior and senior high school programs included 10 sessions which focused upon knowledge about anatomy, physiology, adolescent growth and changes, pregnancy and birth,

birth control, unplanned pregnancy alternatives, and sexually transmitted diseases; self-acceptance and self-awareness; sex roles; communication skills focusing upon the family; and decisionmaking. However, the junior high program placed greater emphasis upon self esteem and values and dilemmas in peer and family relationships, while the senior high program focused more upon decisionmaking and values and dilemmas in romantic relationships. In both programs, the students were involved in a variety of different kinds of activities including short lectures, small group activities, role playing, case studies, and parent/child homework assignments.

The evaluation of the program included pretests and posttests administered to participants about two to three weeks apart. The questionnaires used 30 multiple choice, true/false, and short answer questions to measure knowledge; an open ended question to measure decisionmaking skills; and Likert type scales to measure self esteem, and rigidity of sex roles. The evaluation also included posttest assessments administered to participants and their parents. For the knowledge test there was a small control group.

The analysis of the junior high program indicated the program increased knowledge; mean scores for 1,674 students increased from 50 percent on the pretest to 66 percent on the posttest, while the scores on the control group remained essentially the same at 59 percent. There were also increases in self esteem (from 34.5 to 35.8), rejection of rigid sex role stereotypes (from 12.3 to 12.8), decisionmaking skills (from 1.14 to 1.53). However, these increases are based upon the sums of several Likert-type items and thus they are extremely small. For example, the self esteem scale contained 10 items and the mean increase per item was only .13. This is certainly very small. The results are statistically significant, but this is primarily because of the very large sample sizes (typically about 1,000).

Student assessments administered at the end of the course were positive. Students claimed that the course increased their knowledge, their understanding of themselves, their self acceptance, their perceived importance of decisionmaking, and their ability to communicate with their parents.

Parents confirmed these findings. They believed the course improved their teenagers' knowledge, self esteem, decisionmaking skills, and communication between their teenagers and themselves. As a result, they supported the program.

The results of the senior high program were similar to those of the junior high program: the pretest and posttest comparisons demonstrated that knowledge scores increased (from 53 percent correct to 71 correct); decisionmaking skills increased (from 19.7 to 20.1); and attitudes toward sex roles became less rigid (from 13.3 to 13.7). The impact upon self esteem was not reported. The increase in knowledge was substantial, but the increases in decisionmaking skills and attitudes toward sex roles were very small. Again, because of large sample sizes, all of these changes were statistically significant.

Both the students' and parents' assessments at the end of the course or shortly thereafter also indicated that the course had increased knowledge and self understanding, improved decisionmaking skills, and facilitated the skills, quality, amount, and comfort of their parent/child communication.

In sum, three different methods-- pretest and posttest comparisons, posttest only appraisals by students, and posttest only appraisals by parents, all indicated that the junior and senior high programs produced an improvement in knowledge, self esteem, attitudes toward sex roles, decisionmaking skills, and parent/child communication. The convergence of these findings across both the three methods and the two programs provides evidence for their validity.

On the other hand, with the exception of the increase in knowledge, the changes in the pretest and posttest scores were very small. Moreover, there were no control groups for the attitude questionnaires; the long term effects of the course were not measured; and student and parent assessments normally exaggerate the positive impact of programs. Thus, the magnitude of the impact and its importance are not clear.

Studies by Parcel

Parcel and his associates at the University of Texas Medical Branch completed five different studies of similar courses for eighth graders in Galveston. The first study (Parcel, Luttman, and Meyers, 1979) focused upon a voluntary course offered after school to eighth graders in one school. It included eight one-and-one-half hour sessions, each of which included lectures, audio-visual presentations and small group discussions. In addition, there were two sessions for evaluation purposes. The course was taught by an experienced sex educator, volunteer teachers, and medical school staff. For the evaluation, 32 students completed both pretests and posttests which were matched. A comparison of the pretests and posttests revealed that knowledge increased substantially (from 67 percent correct to 81 percent correct); students' attitudes about premarital sexual relations within a caring, loving, or committed relationship became slightly more permissive and their attitudes about premarital sexual relations without such a relationship became less permissive; overall there was no change in sexual concerns, but more students became concerned about how to tell if someone loves you, more males became concerned about sex dreams, and fewer students remained concerned about the effects of masturbation and the meaning of slang terms.

The second evaluation (Parcel and Luttman, 1980, 1981) focused upon the same course taught at a different time in the same school. In this evaluation, approximately one hundred students completed pretest and posttest questionnaires. About 20 percent of these students attended only a few sessions in the course and about another 20 percent attended less than half. Thus, they served as convenient control groups, although the experimental and control students may have differed in other important respects. None of the groups experienced a significant change in their levels of guilt or worry about sexuality. Moreover, there was no overall trend toward greater permissiveness as a result of the course. However, in the experimental group there was a 50 percent decrease in the attitude that masturbation is wrong, and a smaller decrease in the attitude that masturbation was unacceptable for oneself. This outcome was one of the goals of the course. Members of the experimental group also developed a greater acceptance of homosexuality for others, while maintaining their previous feelings about homosexuality for themselves. Finally, the students in the experimental group became more comfortable with the idea of their future marriage partners having had sexual experience, but they did not change their attitudes about engaging in sexual intercourse themselves.

The third evaluation (Parcel and Luttman, 1981) focused upon the long term effects of a course that was very similar to the first two except that it was taught during the regular school hours. Forty-six students who took the course and 154 students who did not take the course completed pretests before the course and posttests about six months after the course. Neither the experimental nor the control groups had a significant change in their attitudes about premarital sex for themselves or their spouses. Although one goal of the course was to reduce guilt, neither group experienced a statistically significant change in guilt. Both these outcomes reinforce their short term findings in their first study. However, in this study, the control group and especially the experimental group expressed less positive attitudes about masturbation on the posttest than the pretest. This finding contradicts the short term change toward more positive attitudes toward masturbation found in the first study and suggests that earlier results may have been only temporary. Both groups experienced a statistically significant decrease in concern about several sexual matters, but the change in the experimental group was much greater than that of the control group. The experimental group had decreased concerns about masturbation; how far to go with sex; when it's right to have sex; how to stop from going too far; getting someone pregnant (or getting pregnant); and looking at sexually exciting pictures. In sum, the course may have reduced some sexual concerns, but apparently it failed to achieve other attitudinal goals of the course. Significantly, it did not affect values about sexual intercourse.

After completing the evaluations above, Parcel and his associates revised and expanded the course to thirty 50-minute sessions. In this evaluation, Parcel used a delayed treatment experimental design. That is, the control groups first served as control groups, and then took the course and served as experimental groups. The total sample size was 114 students. As before, there were substantial increases in knowledge which lasted at least 12 weeks. However, there were no statistically significant short term or long term changes in any of the attitudes measured except for masturbation. Students became more accepting of masturbation for other people of different ages, but did not change their attitudes about masturbation for themselves. Significantly, making attitudes about masturbation more tolerant was one of the major goals of the course.

In sum, Parcel and his associates found that the eighth grade courses consistently increased knowledge, but had little consistent impact upon attitudes except attitudes about masturbation for others. They also found that knowledge was not correlated with attitudes and that changes in knowledge were not correlated with changes in attitudes. In combination, these findings indicate that increasing knowledge may have little or no impact upon attitudes.

Other Studies

A well designed high school experiment was conducted by Hoch (1971). Sex education was covered for ten fifty-minute periods in a high school biology class. According to the author, the discussions were frank and non-judgmental. Hoch conducted both pretests and posttests and used another class in the school as a control group. Not only did the students' knowledge increase, but they demonstrated a significant increase in (1) their acceptance of family planning and contraception, (2) their acceptance of others' homosexuality, and (3) their confidence in making sexual decisions later in life. In contrast, the course did not have a significant impact upon their values for their own personal sexual behavior.

Carrera, Baker, and McCombs (1978) evaluated the impact of a program for adolescent males in a residential treatment center. It significantly increased knowledge and increased the participants' willingness to assume responsibility for birth control.

In a different report of the same program and residential facility, Carrera and Baker (1981) found that the program caused the boys to become more accepting of masturbation and physical intimacy after several dates (but not on the first date), and less accepting of adultery. The boys also became more skillful at demonstrating parenting skills -- skills which would be later useful to them.

Crosby (1971) studied a semester's course in family life in rural Indiana. Using an experimental design and a 50 item self-esteem test, he found that the self-esteem of the experimental students did increase, while it remained the same for the control subjects. However, the increase was just significant at the .05 level, and would not have been significant if a two-tailed test of significance had been used. Crosby also reported that there was not a significant change in attitude toward family life.

Iverson (1973) evaluated the well known program, About Your Sexuality, developed by the Unitarian church. It is a very liberal program with explicit materials. As a result of the program, the basic moral standards with which adolescents guide their own behavior did not change, but the adolescents did become more tolerant of various sexual practices for others.

Finally, Carton and Carton (1971) evaluated the impact of an explicit course upon a small group of 10 and 11 year old children and their parents. The course included films, slides, tape recordings, photographs, and sensitivity exercises, and covered such topics as masturbation, petting, love-making, and homosexuality. The adolescents did become more liberal in some of their attitudes. Such changes were goals of the course.

In sum, these studies suggest that some sexuality courses may increase the tolerance of the students' attitudes toward the sexual practices of others. In this respect they become more liberal or permissive. A few studies also indicate that as a result of the course, the students become somewhat more comfortable with masturbation for themselves. On the other hand, the courses seem to have little impact upon the students' personal morality. More specifically, the beliefs that students have about their own sexual behavior with others do not appear to change. Thus, the concern that sex education in high school will make students more sexually permissive is not substantiated by the literature.

However, this evidence is not compelling; several of the studies were based upon small sample sizes; few examined long term effects; and a few contradicted each other. Thus, these conclusions should be viewed with caution.

Impact on Skills

Schinke, Blythe, and Gilchrist (1981) developed a high school course for sophomores. It lasted for 14 50-minute periods and covered reproductive biology, contraceptive methods, sexual problem solving, and communication skills. Specifically, the course applied problem solving models to decisions about dating, sexuality, birth control, pregnancy, abortion, childbearing, and parenthood. The communication component included modeling, role playing, and rehearsal. Significantly, the students contracted to apply their knowledge and skills during the intervening weeks.

Schinke and his associates used a Solomon four group design; 18 students took the course and 18 served as a control group. On the pretests the students taking the course were not significantly different from the control group on any of the measures. On the posttests, the participants in comparison with the control students were more skilled in solving interpersonal problems, using better eye contact in role playing, were better able to say "No" to sexual risk taking, and could better demand shared responsibility for using birth control. The course also had positive effects upon behavior as discussed below.

Samson (1977) examined the impact of sex education upon value and moral judgments. The course included thirty hours of lectures and discussions spread over eight months. Frequently it focused upon moral dilemmas. To measure the students′ ability to make moral decisions, Samson and others interviewed each student for an hour and gave each student five dilemmas to solve. The student′s solutions were then assessed using Kohlberg′s stages of moral development as the criterion. In an experimental design Samson demonstrated that on sexual dilemmas, there was a significantly greater improvement in the decisionmaking ability of the experimental students than in the control students. On nonsexual dilemmas, both groups of students changed equally. Although the changes in sexual dilemmas were statistically significant, measuring Kohlberg′s moral stages is difficult, and part of the observed differences may have been caused by experimenter bias.

As discussed above Klein (1982) surveyed 202 alumni who had participated during the previous year or two in the sex education courses of four different high schools. He asked them to assess the impact of the course upon their skills. With few exceptions the alumni claimed that as a result of the course, they had a greater ability to make decisions and to communicate effectively. When program participants assess the impact of a course, they typically rate that course as very effective, even when the course is not effective. However, that bias should be reduced in this study because the students made the assessments a year or more after completing the course, and they should have been more realistic by that time.

Impact Upon Parent/child Communication

Cooper′s evaluation of the 10 hour junior and senior high school courses (1982) also looked at the impact upon parent/child communication. Cooper did not measure actual change in communication with pretests and posttests, but did ask both participants and their parents to estimate the impact of the course. About half of the junior high school students said that the course would help them communicate better with their parents. Several months later parents confirmed that in fact the course had improved communication; 68 percent of them reported that communication with their children was easier and 61 percent reported that the quality and amount of communication had improved. The results were similar but stronger for the high school students; about half thought the course would help them, and several months later 82 percent of the parents thought the course had helped, 78 percent reported the amount had increased, and 75 reported that both the quality and quantity had improved.

These figures are impressive, but their validity should be questioned because participant assessments typically exaggerate the positive impact of courses.

Impact Upon Sexual Activity

Ultimately, most programs are concerned with their impact upon the social and sexual behavior of the participants. Some people fear that sexuality education will put new ideas into adolescents' heads, suggest to them that it is morally acceptable to engage in a variety of sexual activities, and make them want to experiment sexually. Other people believe that sexuality education programs emphasize the consequences of sexual activity, emphasize careful decisionmaking and responsible behavior, help students clarify their values and behave consistently with them, and thereby discourage sexual activity. Unfortunately, few studies of high school programs have attempted to measure behavioral impact; three studies have used surveys instead of experimental designs to estimate the effects of sexuality education programs.

Zelnik and Kim (1982) analyzed survey data collected in 1976 and 1979. These data are commonly considered the best existing data on the sexual behavior of teenage females: the first sample is a representative sample of 15 to 19 year old females in the 48 contiguous states, and the second sample is a representative sample of 15 to 19 year old females and 17 to 21 year old males in the Standard Metropolitan Statistical Areas (SMSAs) in these same states; the sample sizes for each year and sex are larger than 1,000; and the surveys were directed by a very reputable group at Johns Hopkins University.

Zelnik and Kim divided the teenagers into groups according to their sex, race, and age. In some of the groups those who had had sex education were more likely to have had intercourse, while in other groups the reverse was true. In only one of the groups was there a statistically significant difference between those who had had sexuality education and those who had not, and in this group those who had had sexuality education were less likely to have had sexual intercourse. In general, however, the authors concluded that according to their data, sexuality education does not influence the decision to have sex.

However, there are at least two confounding factors that should be considered. First, Zelnik and Kim note that some of the respondents almost surely had sexual intercourse prior to their sexuality education course, and thus participation in the course could not have caused their first act of intercourse. However, the teenagers who had sex prior to the course would be counted in the analysis as people having had sex education and intercourse and could thereby produce a misleading conclusion. As a matter of fact, if they had been interviewed earlier, between the time they had intercourse and the time they had sexuality education, they would have been classified as people who had not had sexuality education, but did have intercourse. If there are many respondents like this in any of the three samples, then correctly treating them as having had intercourse but not having had sexuality education would change the conclusions -- all three studies might have found sexuality education was associated with less sexual activity.

Second, Zelnik and Kim did not fully control for age, although they divide female respondents into two age groups (15-17 and 18-19). However, 17 year old females are much more likely than 15 year olds to have had sexuality education and intercourse, even if sexuality education does not cause intercourse. Thus, if Zelnik and Kantner could have better controlled for age, they might have found that sexuality education reduces sexual intercourse.

Spanier (1976, 1977, and 1978) collected data on a random sample of 1177 college students. He found no association between previous sexuality education in high school and subsequent petting or intercourse. He also found no relationship between the inclusion of birth control as a topic in the sexuality education course and subsequent petting or intercourse. He did not measure subsequent use of birth control. These results are consistent with his finding that the respondents' major sources of information about sexuality came from peers and the media, and not from the sexuality course. This suggests that many of the respondents participated in sexuality education courses that were not comprehensive. Unfortunately, he did not measure the comprehensiveness of the courses.

Wiechmann and Ellis (1969) surveyed 545 college students at the University of Missouri. They also found that previous participation in a grade school, junior high school, or senior high school program had no association with subsequent petting and intercourse. Moreover, the grade in which they had the sexuality education course was unrelated to subsequent sexual experience.

These three surveys all indicate that sexuality education has no impact upon sexual behavior. However, these three studies, like all surveys, cannot adequately demonstrate causality and may have even obscured some relationship between sexuality education and sexual activity.

No one else has studied the impact of high school sex education upon sexual behavior and pregnancies. However, several people have examined the impact of college sex education classes upon behavior. College classes may have a different impact than high school classes: on the one hand college classes tend to be more permissive and more explicit; on the other hand, the sexual values and behaviors of college students may be more solidly established than those of high school students. However, the evaluations of college classes can provide some light on high school classes.

Zuckerman, Tushum and Finner (1976) analyzed the behavioral impact of a college sexuality course. The sexuality students had more sexual experience prior to the beginning of the course than the psychology students used as a control group. However, both the experimental and control students increased their sexual experience by approximately equal amounts during the semester.

Lance (1975) also investigated the impact of sex education upon the behavior of college students. He found that during the semester-long course none of the students engaged in sexual intercourse, oral-genital sex, or homosexual behavior, if they had not already done so prior to the course.

Godow and LaFave (1979) in their experimental design involving 203 college students found that there was no increase in kissing, necking, petting, premarital intercourse, oral sex, anal sex, extra-marital intercourse, group sex, or homosexual relations as a result of the college sex education course. There was, however, a slight increase in masturbation among females in the experimental group.

Gunderson, Paul and McCary (1980) found that during their course, there were slight increases in some forms of sexual activity, slight decreases in others, and that overall, there was no significant change in behavior.

Bernard (1973) found that both the experimental and the control students increased their sexual activity by roughly equal amounts. Thus, the course did not appear to have any clear impact upon those sexual behaviors measured.

Yarber and Anno (1981) studied the effects of a semester course at Purdue University. He found that most differences in behavior between the experimental and control groups were not statistically significant. The few differences that did arise did not have any clear pattern and consequently they may be artifactual.

Schroeder (1977) evaluated the impact of a three unit college human sexuality course taught in California. Using a psychology class as a control group, she found that both the human sexuality class and the psychology class had similar increases in sexual behavior and that the human sexuality course apparently had no significant impact upon petting or intercourse.

Two studies of college students found significant increases in sexual activity. Vacalis et al. (1979) administered pretests and posttests to students in two different types of sex education courses. The first type of course included reading a text and attending class lectures and discussions. The students in these courses improved their use of effective contraception, but did not change most of their other sexual behaviors. In contrast, the second type of course included only the reading of a text and the taking of four tests on the text materials. This is obviously an unorthodox type of course. The students in this course engaged in more sexual activity of various kinds.

Voss (1978) conducted an excellent study of the effects of weekend workshops on sexuality. The workshops were clearly designed to help clarify attitudes, reduce guilt, and encourage a wider range of sexual behavior consistent with the individual's values. During the month after the course, the participants did participate in a statistically significant greater amount of masturbatory and heterosexual (but not homosexual) activity.

In sum, the three surveys of teenagers indicate that high school sexuality education programs are not associated with sexual activity. If other confounding factors were controlled, these surveys might indicate that sexuality education reduces sexual activity. Certainly the surveys do not provide any evidence that programs increase sexual activity. The studies of college classes are based upon experimental designs and indicate that college courses do not increase sexual behavior, unless that is an explicit goal of the course. If most college classes which are more permissive, exhaustive, and explicit do not increase sexual behavior, then high school classes which are more limited probably do not increase behavior either. These studies should diminish fears that sex education will increase the sexual behavior of teenagers. However, the studies also fail to provide any compelling evidence that classes may reduce sexual behavior.

Impact upon Contraceptive Behavior

After taking the course developed by Schinke et al. (1981) and discussed above, the students actually used contraception more habitually, had greater protection at last intercourse, and relied less on inadequate methods of birth control. However, only 18 people in the course were evaluated and presumably not all of them were sexually active and using contraception; thus, the sample size was very small indeed and any generalizations should be very tentative.

Darabi, Jones, Varga, and House (1982) evaluated a four-session program that focused upon unprotected intercourse, the likelihood of pregnancy, and contraception. The Presbyterian Hospital of New York City provided the program to 688 adolescents who were mostly Latin females between the ages of 14 and 15. Before the course, 23 percent of the participants said they always used birth control; at the end of the course 57 percent said they intended to always use birth control. This is an impressive increase, but its importance is difficult to determine because many young people will claim that they fully intend to always use contraceptives, but when they actually need to do so, spontaneous passion, the unavailability of contraceptives, fears, desires, and other factors prevent them. Within 12 months at least 4 percent of all the participants or 9 percent of the sexually active participants actually went to the Presbyterian clinic for birth control for the first time. Whether this percentage is large or small cannot be determined without a control group.

Zelnik and Kim also examined the association between (1) sexuality education courses which covered methods of birth control and (2) their actual use. Once again, they examined the relationships among younger and older blacks and whites in 1976 and 1979. The results are mixed, but all statistically significant results indicate that teenagers who had sex education were more likely to use some method of birth control. More specifically, in comparison with similar groups who had not taken sexuality education, black women in 1976 and 1979 who had taken sexuality education were significantly more likely to have ever used either a prescriptive method or any method, and all women in 1979 (but not 1976) who had taken sexuality education were significantly more likely to have used some method during their first act of intercourse and more likely to have ever used some method of birth control.

Talbot (1983) and others developed a teen advocate program that was implemented in nine different clinics in Los Angeles, California. The teen advocates primarily performed outreach work, giving group presentations to other teenagers in schools and other community agencies and talking individually with teenagers in schools and other places where youths congregate. Some of the teen advocates also worked in the clinics as receptionists, educators, clinic assistants, and follow-up workers.

All teenagers completed questionnaires when they came to the clinics. The resulting data indicate that at least 24 percent of the teenagers found out about the clinic from the teen advocates. This percentage is encouraging, but some of these teenagers may have attended clinics for birth control even if they had not spoken to the teen advocates.

Zabin, Street, and Hardy (1983) at Johns Hopkins University developed a program in a low income Black area in Baltimore. The program has two components, an educational program in a junior and a senior high school, and a family planning clinic that is across the street from the high school and four blocks from the junior high school. The nurse and social worker from the clinic give presentations during regular classes in the schools and also provides other kinds of instruction to the students. After school, they hold very informal small group discussions in the clinic. The clinic also provides the kinds of family planning services, including contraception, that are available in most clinics.

To evaluate the impact of the instruction and the clinic, the clinic staff had teachers in both schools administer comprehensive questionnaires to all students before the clinic opened and several times after the clinic opened. The clinic, of course, also kept appropriate clinic records on who attended the clinic and for what services.

Although the data have not been fully collected nor fully analyzed, the preliminary data suggest that the education and clinic combination is effective. By the second year of the clinic, about 60 percent of the sexually active students used the clinic for birth control, and the mean duration of time between first engaging in intercourse and getting birth control significantly declined. Thus, the program appears to have reduced the amount of unprotected intercourse.

The evaluation also compared the changes in the students who participated only in the sexuality education component with those who also went to the clinic. Both groups had a significant increase in knowledge, but there was a much greater change in contraceptive behavior among those who went to the clinic. This suggests, but does not prove, that the clinic was more effective in reducing unprotected intercourse than the educational component. However, it is certainly possible that the education component had an important, but indirect, impact upon behavior by motivating students to go to the clinic for services.

Only one study has carefully measured the impact of a college course upon contraceptive use. Shipley (1974) examined the effects of a four week college unit on sex roles, relationships, and contraception. His sample size was sufficient (N=199), and he measured both pretest and posttest scores, but he did not have a control group. This omission is probably not crucial because of the short duration of the course. Between the pretests and posttests, knowledge about contraception increased 33%, while the number of students using ineffective or no contraception decreased 57%. Clearly, these are dramatic figures for such a short course. Moreover, these behavioral changes occurred despite the fact that attitudes toward contraception did not change.

These studies suggest that instruction on contraception will increase the use of more effective contraception and decrease sexual activity with poor or no contraception. They also suggest that linking instruction with contraceptive services may be particularly effective. These findings are encouraging, but more compelling evidence is still needed.

Impact On Pregnancies

Several studies have examined the impact of sexuality education programs upon pregnancies. Because reducing unintended pregnancies is such an important goal of sexuality education, these studies are discussed in some detail.

Jenkins (1981) evaluated a sexuality unit taught in an area east of Los Angeles. The unit included 30 to 40 hours of instruction divided over 6 to 8 weeks. It was part of a 9th grade course, typically a required science course. The unit covered self-awareness, understanding others, masculinity and femininity, reaching biological maturity, physiology of the reproductive system, venereal diseases, causes and effects of teenage pregnancies, responsibilities of parenthood, exploitation of sex, contraception and responsible decisionmaking.

The staff collected pregnancy data for three high schools by collecting data from the school nurses who routinely saw pregnant girls needing special educational programs, the local Planned Parenthood clinic, the school district's health services coordinator, and the instructor of the Young Mothers' Class. Unfortunately, the staff was unable to determine how many girls became pregnant and then had abortions without telling any of the school personnel or the Planned Parenthood clinic. Given that each of the schools had about 1,800 students during all but the first year, the reported pregnancy rates varied from below 1 percent to about 3 percent. Clearly these rates were well below the national average. This indicates that either these schools in fact had much lower than average pregnancy rates or the staff did not collect data on many of the pregnancies. The general concern of the school about pregnancies and demographic characteristics of the school would suggest that the schools were not below average in pregnancies, and that the differences were due to poor reporting. There is no reason to believe that the percentage of pregnancies actually reported decreased when the sexuality education program was implemented; thus, the data should not be biased. However, the poor reporting should make all conclusions tentative.

Initial observations of the reported data suggest that the 9th grade program had a dramatic effect. At both Pomona and Ganesha High Schools pregnancies dropped dramatically the year that the 9th grade program was initiated, and at Garey High School the pregnancies dropped a little during the first year of its program. The sudden decrease in pregnancies at Pomona High School is made even more dramatic by the fact that the population of students increased in the fall of 1974 at all three schools by the addition of the 9th grade.

However, a closer examination of the data suggests a more cautious view. In the fall of 1974, the only new sexuality education program was the 9th grade program. It doesn't seem likely that the freshman program would have had much impact upon the pregnancy rates of sophomores, juniors, and seniors, especially since few freshmen males have sex with older females. Thus, if the freshman program had no impact upon sophomores, juniors, and seniors, but successfully prevented all pregnancies among freshmen, the pregnancy rates for 1973/1974 when there were no freshmen and for the following year when there were freshmen should be the same. This did not occur and suggests that the number of pregnancies for 1973/1974 was unusually high for some other reason.

Moreover, each year an additional class of students at Pomona High School completed the freshman program. Thus, if the program were effective, the pregnancy rate would have dropped considerably for four successive years. However, this did not happen. The number dropped dramatically between 1973/1974 and 1974/1975 and then stabilized. This also suggests that the decline may not have been caused by the sexuality education program and that the number of pregnancies in 1973/1974 was abnormally high for some other reason.

Similarly, if only freshmen participated in the new program at Ganesha High School in 1978/1979, it doesn't seem likely that the program would have reduced all pregnancies by more than 50 percent in the first year. Rather the impact should have been delayed.

In sum, these data are consistent with the belief that the programs may have reduced pregnancies some, but other unknown factors undoubtedly caused the sudden changes in reported pregnancy rates.

Cooper (1982) examined the impact of the 10-session senior high course discussed above. During the five months prior to the program and for seven months after the program, she collected pregnancy statistics from clinics in three districts which offered the sexuality education program and in 25 districts which did not offer the program. The number of pregnancies declined in both participating and non-participating districts, but the participating districts had an even greater decline. This is encouraging, but the difference was not statistically significant, the reason for the decline in the non-participating districts cannot be explained, and thus these results are not compelling. They certainly suggest that the programs do not increase pregnancies as some people fear, but they are not solid indications that programs decrease pregnancies.

Finally, Zelnik and Kim using their national surveys of teenage women examined the association between sexuality education and pregnancy for the different groups of women. In all groups, women who had sex education had lower rates of pregnancy than women who did not have sexuality education. However, the only group with a statistically significant difference consisted of 15-17 year old blacks in 1979. Equally important, the difference was also significant for all the women in both samples grouped together. In 1976, 22.8 percent of the women who did not have sexuality education became pregnant, while 31.2 percent of those who did not have sexuality education became pregnant. This is a reduction of 27 percent. The comparable figures for 1979 are 25.3 percent and 34.7 percent; again a reduction of 27 percent.

The confounding factors described above that can obscure associations between sexuality education and various outcomes would also reduce the magnitude of the negative relationship between sexuality education and pregnancies. That is, some of the adolescents who both took sex education and became pregnant may have become pregnant prior to taking sexuality education and the 17 year old girls by simple virtue of their age are more likely to have taken sexuality education and to have become pregnant than the 15 year old girls.

In sum, these studies all indicate that sexuality education may reduce pregnancies. Each of these studies has some significant flaw, but they have different flaws and all of them suggest the same conclusion.

Three additional programs should also be described. None of them is a traditional sexuality education program because all of them are linked with clinics, but their success appears to be outstanding.

The most innovative and best evaluated is an education/clinic program established in St. Paul, Minnesota (Brann, et al. 1979). One of the hospitals in that city established a comprehensive health clinic on the grounds of one of the high schools. On campus the program provides sex education instruction, general health exams, pelvic exams, and contraceptive follow-ups. Off campus the program provides contraception as well. Thus, the school clinic has an educational component and the staff interacts frequently with the students, but the program differs from the traditional sex education course.

The results of the program are dramatic. Of those students who began using contraception, 86% were still using it after a year, and none of these students became pregnant during that time. More dramatically, the fertility rate for the high school declined by 56% over a three year period! This decline represented a decrease of dozens of pregnancies. Because the staff carefully followed up students who dropped out of school, and also because the staff could demonstrate that this decline was not produced by legal abortion, these figures appear valid. If so, they are the most dramatic figures in the literature and the most solid evidence for the impact of a program upon teenage pregnancy. This program was further evaluated in this study (Chapter 17).

Smith (1980) evaluated a sexuality education program developed at two job corps centers. The program focused upon conception, contraception, child rearing, sexually transmitted disease, and human relationships. Some of the sessions were actually held in the waiting room of the family planning clinic at each site. During the six months prior to the education program, there were 18 pregnancies; during the six months after the program, there were only 11. The report did not demonstrate that the decline was due to the education program, and not to changes in the clinic, natural changes during the year, or normal variation. However, the results indicate that an education/clinic combination may be effective in reducing pregnancy.

A program in Philadelphia (Dickens et al., 1975) somewhat resembles the program in St. Paul. The program was developed by the University Hospital Teen Clinic. Social workers, nurses, and counselors provide lectures, discussions, and counseling to high school students in their school and they make referrals to the hospital clinic for contraception. Significantly, the same staff members work with the teenagers in both locations, thereby providing a bridge between the school and the clinic. Of the first 170 students in the course, 61 began using contraceptives and the number of pregnancies among these students appears to be low. Thus, the program appears to successfully reduce pregnancies. However, the quality of the data and the lack of data for a control group prevent a more definitive conclusion.

Conclusions

Given the capabilities and limitations of schools in general, the effects of sex education programs are not surprising, but encouraging:

- Many sex education courses have increased their students' knowledge about sexuality, but the long term effect of these courses upon knowledge is not clear.

- Some programs facilitated attitudinal change, particularly when that was a goal of the program; others did not succeed in changing attitudes, even when that was a goal. When attitudes changed, they typically became more tolerant toward the practices of others. However, there is little evidence that attitudes towards one's own behavior changed. That is, students' personal values systems were not changed and they became neither more conservative nor permissive.

- Programs apparently had little effect upon the amount of various types of sexual behavior such as petting or sexual intercourse, although correcting for confounding factors in the surveys might reveal that programs reduced sexual intercourse. There was certainly no evidence that programs increased intercourse.

- Those courses which emphasized contraception may have increased the use of effective contraceptive methods and may have decreased both the use of ineffective methods of contraception and intercourse without contraception.

- Educational programs covering contraception may have reduced pregnancies, but the evidence is not yet compelling. The programs which integrated instruction and the provision of contraception appear to more substantially reduce pregnancies.

- Different programs had different outcomes. Thus, sex educators should select goals for their programs, and then develop programs to meet those goals.

- There is a great need for additional research that better determines the effects of different kinds of programs. Most of the conclusions stated above are based upon small numbers of studies, some studies employing survey designs, some studies with small sample sizes, some studies without control groups, and some studies of college students. None of the studies measured the long term impact upon knowledge, attitudes, and behavior with an experimental design.

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CHAPTER 4

METHODS USED IN THIS EVALUATION

An Overview of the Methods Used

General Approach

As stated in the first chapter, the major purpose of this research was to find, develop, and evaluate promising approaches to sexuality education. Accordingly we:

- defined various goals of sexuality education
- used professionals to identify and rate important characteristics and outcomes of sexuality education programs
- selected promising programs with these characteristics
- improved those programs
- evaluated those programs by collecting and analyzing questionnaire and clinic data
- identified and described the effective approaches.

Overview of Different Data Collection Methods

An important principle in methodology is that evaluators should use maximally different methods to collect data. If the data collection methods are maximally different, then they will probably involve different assumptions and introduce different sources of error. Thus, if all the methods support the same conclusions, then the evaluators can have much greater faith in their conclusions. Conversely, if the different methods produce different or contradictory conclusions, then the researcher knows that one or more of the methods and conclusions are invalid.

In this study we used four different methods. The first three were somewhat different, but not maximally different; they relied upon questionnaires, but used different kinds of questionnaires and questioned different groups of people--participants and their parents. The fourth method was very different; it relied upon pregnancy rates derived from clinic records.

Method #1 used quasi-experiments in which we administered questionnaires to the participants (and at some sites non-participants) as pretests, posttests, and delayed posttests. The questionnaires measured many possible outcomes of programs. We used this method at nearly all the sites and of the four methods it produced the most systematic, comprehensive, and valid data.

Method #2 used surveys in which we administered questionnaires to the participants at the end or soon after the program. These questionnaires measured the participants' assessments of the programs' characteristics and their effects. The questionnaires asked how the program had already affected the participants or would affect them in the future. This method produced data that are probably less valid than that produced by Method #1, but nevertheless our analysis indicated that these data had a reasonable construct validity. We used these data primarily as a check against the data from Method #1.

Method #3 used surveys in which we sent questionnaires to parents at the end or soon after the program. The questionnaires asked the parents to assess programs' effects upon their children. This method also produced data that are less valid than those of Method #1, but we used it primarily as a check against the first two methods.

Method #4 used pregnancy and birth rates based upon clinic records. In three sites, we obtained estimates of the pregnancy or birth rates in the schools both before and after the programs were initiated; in a fourth site we obtained pregnancy rates for those students taking the course and also for those not taking the course. In at least two of the sites, these data produced the most valid evidence for the impact of the program upon pregnancies or births.

The methods we used at each program are in Table 4-1.

The remainder of this chapter focuses upon the questionnaires and other methods we used to evaluate the programs. If you are less methodologically inclined and are either bored or confused by discussions of methods, you can skip the remainder of this chapter and still understand most of the following chapters that present evaluation evidence of the programs. However, you should be sure to read the overview and limitations of the methods in Chapter 1.

Method #1: Quasi-experiments Using Questionnaires Administered to the Participants

Quasi-experimental Design

In all the sites in which we collected questionnaire data, we collected pretest and posttest data from the students in the sexuality education classes.

In many of the sites, we also collected second posttest data three to five months after the end of the program. This is important, because some effects of sexuality education programs may occur months after participation in a program when some of the students may first begin dating, having sexual relations, or using methods of birth control. This amount of time is greater than that in most previous studies, and it is sufficient to assess the impact of time upon knowledge and attitudes. However, we needed a longer period of elapsed time to fully measure the impact upon sexual behaviors. Our data may not reveal some actual behavioral changes, particularly change in the use of contraceptives, because these changes may have occurred after the second posttest. However, it is also true that the effects of programs upon most outcomes will diminish with time as other intervening events influence behavior.

We were unable or unwilling to wait a longer period of time to administer the second posttests for several reasons. First, keeping track of the classes or addresses of students was difficult after many months. If the semester ended and the students were in different classes, then they had to be recruited from many classes, thereby disrupting those classes. If the students left

Table 4-1

Summary of Evaluation Methods for Each Program

Program	Method #1: Quasi-exprmntl Design Using Questionnaires	Method #2: Survey of Participants' Assessments	Method #3: Survey of Parent Assessments	Method #4: Pregnancy Rates from Clinics
University City High School				
10th, 11th, & 12th	X	X	X	X
Council Rock High School				
11th	X	X	X	
12th	X	X	X	
George Mason High School				
9th	X	X	X	
12th	X	X	X	
Ferndale High School				
9th	X			X
10th				X
11th & 12th	X	X		X
Family Guidance Center				
6-day	X	X		
conferences	X	X		
parent/child	X	X		
San Antonio Planned Parenthood				
6-day	X	X		X
Peer counseling	X			X
Pensacola Community Mental Health Center				
10-day	X	X		
Planned Parenthood League of Massachusetts				
conferences	X	X		
St.Paul Maternal & Infant Care				
school clinic				X

school or moved, finding their new addresses was difficult, if not impossible, for so many students. Second, as time elapsed, students became less willing to complete and return lengthy questionnaires. Third, our contractual requirements with the Centers for Disease Control specified that the study be completed within a given period of time. In some sites we could not delay the administration of the second posttests because we had to finish the evaluation.

In several sites, we successfully administered questionnaires to control groups. Whenever possible we administered the questionnaires to students that were as similar as possible to the students in the sexuality education classes. For example, we gave them to students in other health classes.

However, in other sites we were not able to administer questionnaires to control groups. For example, in one site the entire junior class participated in the sexuality unit. Thus, the school itself could not produce a control group of similar students. There were other schools nearby, but they had different social/economic statuses, and they were unwilling to administer sensitive questionnaires to hundreds of students in their schools so that we could have a control group. Several schools elsewhere in the country initially indicated a willingness to serve as control groups, but when it became time for them to actually participate, all but one of them refused to participate for one reason or another. One school did participate, but the number of students that actually completed pretests and posttests was disappointingly small. In sum, obtaining control groups was a continuing source of frustration.

However, in our statistical analysis we learned that including control groups was very important. Consequently, in those sites where we did not have control groups, we used those control groups from other sites that best matched the experimental groups in terms of demographic characteristics and duration of elapsed time between pretests and posttests.

The type of design that we used in each site is summarized in Table 4-2.

Sampling

In all the sites we administered the questionnaires to all the participants in the course. Of course, a small percentage of students is typically absent from school on any given day, and consequently, not all students completed both the pretests and the posttests. However, there were no unusual numbers of absences during the administrations of the questionnaires and some teachers had absent students complete the questionnaires when they returned a day or so later. Thus, we believe that at least 95 percent of the students in the courses completed the questionnaires. The small percent of participants who did not complete the questionnaire probably represent a random error, for they were absent for a variety of reasons--sickness, other obligations, etc. Thus, it is safe to generalize from the sample to all participants in the courses.

However, it is not prudent to generalize from these sexuality education programs to all sexuality education programs. We selected these programs because they represented particularly promising examples of different approaches. We have never claimed that they are the best programs in the country, but they are probably more effective than average. Moreover, different programs, different curricula, and different teachers have different goals. Thus, it is certainly imprudent to conclude that other programs would

Table 4-2

Summary of Experimental Design Characteristics for Each Program

Program	Pretests & Posttests	Delayed Posttests	Control Group from Site
University City High School			
10th, 11th, & 12th	X	X	X
Council Rock High School			
11th	X		
12th	X	X	X
George Mason High School			
9th	X		
12th	X		
Ferndale High School			
9th	X		
10th	X		
11th & 12th	X		
Family Guidance Center			
6-day	X	X	
conferences	X	X	
parent/child	X	X	
San Antonio Planned Parenthood			
6-day	X	X	X
Peer Education	X	X	X
Pensacola Community Mental Health Center			
10-day	X	X	X
Planned Parenthood League of Massachusetts			
conferences	X	X	
St.Paul Maternal & Infant Care			
school clinic			

have the same effects as these programs. However, the evaluation of these programs indicates the kinds of effects programs can have if they have similar goals, curricula, and teachers. All of these programs, except for possibly the clinic program, can be replicated with reasonable resources available to most schools.

In Table 4-3 are the numbers of participants that completed the pretests and posttests at each site.

Table 4-3

The Sample Sizes for the Pretest/posttest Analysis at Each Program

Sample Size	Program
344	University City High School: 10th-12th grade
411	Council Rock High School: 11th grade
237	Council Rock High School: 12th grade
107	George Mason High School: 9th grade
76	George Mason High School: 12th grade
93	Ferndale Elementary School:
42	Ferndale High School: 9th grade
11	Ferndale High School: 11th & 12th grades
259	Family Guidance Center: 6-day program
265	Family Guidance Center: conferences
268	Family Guidance Center: parent/child program
332	Planned Parenthood of San Antonio: 6-day program
116	Planned Parenthood of San Antonio: peer counseling
134	Pensacola Community Mental Health Center: 10 day program
160	Planned Parenthood League of Massachusetts: conferences

Development of the Questionnaires

We put a great deal of effort into developing the questionnaires to measure the outcomes of the programs. The magnitude of the task can be more easily seen by comparing it with other efforts. Some scholars have spent as many as 10 to 20 years developing a single scale to validly measure some concept such as alienation. We attempted in less than two years to develop measures that would validly measure between 50 and 100 different outcomes, depending upon how precisely you define the outcomes. Although the questionnaires appear to have an adequate or better reliability, our measures can undoubtedly be improved in a variety of ways.

Characteristics of the Knowledge Test

The final knowledge test is a 34 item multiple choice test. It includes questions in the following areas: adolescent physical development, adolescent relationships, adolescent sexual activity, adolescent pregnancy, adolescent marriage, the probability of pregnancy, birth control, and sexually transmitted disease. The entire test has a test-retest reliability coefficient of .89.

Steps in Developing the Knowledge Test

Specification of knowledge areas. We reviewed the literature, examined the overall goals of sexuality education, and specified potentially important knowledge areas. In a series of meetings with about 20 professionals in sexuality education we supplemented and revised these topics. One hundred professionals in the field anonymously rated the importance of each of the topics, and we found both the median and mean rating for each item. We used these ratings to determine which knowledge areas should be measured.

Review of existing questionnaires. Previous researchers have developed knowledge tests that we reviewed. Five knowledge tests were particularly good: The Sexual Knowledge Survey (Algeier, 1978), The Sex Information Questionnaire (Clark & Hicks, 1969), The Sexual Knowledge and Attitude Test (Lief & Reed, 1972), The Sexual and Contraceptive Knowledge Questionnaire (Miller, 1977), and The Sex Attitude and Knowledge Survey (Petersen, et al., 1978). These questionnaires provided a few questions that we modifed and incorporated into initial versions of our own. However, the tests in general had a number of characteristics which precluded our using more questions: some were designed for older adolescents or college students; some utilized a format unsuitable for our purposes (e.g., fill-in-the-blank); and some did not measure knowledge about the precise topics rated very important by our panel of professionals.

Generation of items. For each knowledge area we created between 5 and 20 different knowledge questions, depending upon the breadth of the knowledge area. We used respected sexuality education textbooks as a guide.

Initial review by adults and adolescents. We asked several adults and adolescents to complete the test and to make notes about the questions as they completed them. We then asked them questions about each question: Did they understand the question? Was it too difficult or too easy? Was it clear? How could it be made more clear? Did they understand all the words, or was the vocabulary too sophisticated? As a result of these discussions, we made numerous changes that improved the clarity of the items.

Pretest of the questionnaire. About 100 adolescents of different ages, different skills, different backgrounds, etc completed the knowledge test. We then scored and analyzed the distribution of answers. We excluded questions that were either too difficult or too easy, and we replaced a few multiple choice responses if they were never selected and were not needed for other reasons. We also examined the adolescents' understanding of questions by analyzing the distributions of answers. For example, if many students gave the same wrong answer, we checked whether the question was vague or unfair or whether the respondents were simply ignorant about that fact. As a result of all of this analysis we eliminated about 20 percent of the questions.

Review by the Centers for Disease Control. CDC then reviewed the items and removed several questions that it felt might not be acceptable to some people.

Review by sites. Each of the programs that was going to use the test reviewed it and made many numerous suggestions for improving the questions. We then incorporated many of these suggestions.

Larger adolescent pretest. We administered the test to 729 students and again analyzed the answers. We removed a few more items that were too easy or too difficult and conducted an item analysis to determine the reliabilty of each question. Specifically, we scored each test and then correlated whether or not each person answered each question correctly (correct = 1, incorrect = 0) with each person's overall score. If people who scored higher overall were also more likely than people who scored lower overall to answer a particular question correctly, then that item would be positively correlated with the total score and would probably be reliable. In contrast, if people who scored higher overall were less likely to answer a particular question correctly, then that item would be negatively correlated with the total score and might be unreliable. All items had a positive correlation.

Grouping by knowledge area. We still had too many questions, so we divided all the questions by knowledge area (content domain) and had three judges remove the poorest questions from each domain until we had the desired number of questions in each domain.

Reordering of questions and responses. Finally, we switched the order of questions so that several consecutive questions did not have the same answer. We also modified questions so that too high a proportion of questions did not have "none of the above" or "all of the above" as correct answers.

Assessing the reliability. We determined the test-retest reliability of the knowledge test by administering it to 58 young people on two occasions two weeks apart and then calculating the correlation coefficient between their total score on the first administration and their total score on the second administration. That reliability coefficent is .89.

Characteristics of the Attitude and Value Inventory

The Attitude and Value Inventory includes 14 different scales, each of which consists of five 5-point Likert type items. These scales measure:

- clarity of long term goals
- clarity of personal sexual values
- understanding of emotional needs
- understanding of personal social behavior
- understanding of personal sexual response
- attitude toward various gender role behaviors
- attitude toward sexuality in life
- attitude toward the importance of birth control
- attitude toward premarital intercourse
- attitude toward the use of pressure and force in sexual activity

- recognition of the importance of the family
- self-esteem
- satisfaction with personal sexuality
- satisfaction with social relationships

Steps in Developing the Attitude and Value Inventory

Specification of outcomes. We reviewed the literature, examined the overall goals of sexuality education, and specified a variety of potentially important psychological attributes. In a series of meetings with about 20 professionals in sexuality education we supplemented and revised these outcomes. A panel of one hundred professionals in the field anonymously rated the importance of each of the outcomes, and we found both the median and mean rating for each outcome. They included most of the scales specified above.

Review of existing psychological scales. Other psychologists have developed innumerable psychological scales. Consequently we contacted both sexuality educators and psychologists for scales closely related to the outcomes we wished to measure; reviewed recent studies of sexuality education programs to determine what scales were used; and explored the major collections of psychological measures or references to psychological measures (c.f., Buros, 1974; Chun, 1975; Goldman, 1978; and Thorndike, 1971).

Although a great many questionnaires or measures have been used by either sexuality educators or psychologists, they proved inadequate for our purposes. In general, they did not measure the precise outcomes specified by our panel of professionals, were designed for older adolescents or college students, or provided no evidence for the reliabilty and validity of the instrument with populations similar to ours.

Generation of items. For each outcome, we generated between 5 and 10 items. These items were guided both by the outcomes specified by the professionals and by the characteristics of items found in other psychological scales.

Initial review by adults and adolescents. We administered the initial questionnaire to a small number of adults and adolescents, and then asked them many questions about their understanding of each of the items: Were the items clear? Were words too large? Did they understand what we were getting at? How did they interpret the items? Their answers gave us numerous ideas for improving the items and we did so.

Review by psychologists. Two psychologists trained in questionnaire design and scale construction examined each item for unidimensionality and clarity. They suggested improvements that we incorporated.

Pretest of the questionnaire. About 100 adolescents completed the questionnaire and we statistically analyzed their responses. First, we correlated each item with the Marlowe-Crowne Social-Desirability Scale and excluded from further consideration all items with correlation coefficients greater than .30. Removing these items greatly reduced the possible error caused by response sets based upon social desirability. Second, we factor analyzed the items, using an iterative process with one scale at a time.

Specifically, we did an initial factor analysis, dropped from the factor in question those items with the poorest loadings, did another factor analysis, dropped the items with the next lowest ratings, etc. until we had about five items per scale.

Review by the Centers for Disease Control. CDC then reviewed all the scales and excluded those items and scales which were most sensitive and which were least likely to be approved by all the agencies that would subsequently have to approve them.

Addition of new scales. After completing the steps above and before continuing with additional development we realized that there were a few additional outcomes that we wanted to measure. Accordingly, we generated new items and had four psychologists and sociologists refine them.

Additional review by adolescents. Several groups of four or five adolescents each completed the new psychological inventory and discussed the questions with us. As usual, they had many suggestions which we included.

Review by sites. The sites which were going to use the questionnaires reviewed them, and deleted and refined a few items.

Larger adolescent pretest. About 245 adolescents completed the Attitude and Value Inventory and we analyzed the data again. We did another exploratory factor analysis for each of the scales separately. That is, we included in each factor analysis only those items that were included in the specified scale. We observed the factor loadings of the first factor before rotation, and removed those items with the poorest loadings. Two scales failed to have at least five items with factor loadings above .60. Consequently, we generated new items for those factors. We also excluded some items that had a mean rating very close to either the minimum possible or maximum possible, or had a very low variance, because such items failed to allow for change or to discriminate among people.

Assessing the reliability. We determined the reliability of the fourteen different scales two different ways. First, we found their test-retest reliabilities by administering the questionnaire twice, two weeks apart, to 51 participants in different programs, and then calculating the correlation coefficient between the first administration and the second administration of each scale. These are reported in Table 4-4. Second, we calculated the overall reliability of each scale by randomly selecting about 100 pretest and posttest questionnaires from each site, combining the questionnaires into a single file, and then calculating Cronbach´s alpha for the items in each scale. Cronbach´s alpha is one of the best measures of the internal consistency of scales. It is based upon the intercorrelations among the items within each scale. These coefficients are also presented in Table 4-4. During the administrations and analyses of the questionnaire, it became quite apparent that the reliability of the questionnaire might depend partly on the nature of the questionnaire and partly upon the characteristics of the site, the respondents at that site, and the quality of the administration procedures at that site. Consequently, we also calculated the reliability of each scale at each site using Cronbach´s alpha. These alpha´s are also reported in Table 4-4.

Table 4-4:

Reliability Coefficients for the Scales in the Attitude and Value Inventory

	Test-retest Correlation[a]	Cronbach's Alpha[b]							
	Sample of Sites	All Sites	University City High School	Council Rock High School	George Mason High School	Family Guidance Center	Planned Parenthood San Antonio	Planned Parenthood League of Mass.	Lakeview Center
Sample Size	51	990	336	1270	120	1185	225	225	150
Scale									
Clarity of long term goals	.72	.89	.87	.90	.86				
Clarity of sexual values	.69	.73	.69	.81	.71	.75	.62	.81	.54
Understanding of Emotional Needs	.51	.81	.76	.83	.84				
Understanding of Social Behavior	.78	.78	.74	.81	.83				
Understandng of Sexual Response	.82	.80	.75	.81	.82				
Attitude toward Gender Roles	.73	.66	.65	.72	.65				
Attitude toward Sexuality in life	.77	.75	.69	.78	.78				
Attitude toward Birth Control	.64	.72	.59	.76	.73	.71	.69	.69	.64
Attitude toward Premarital Sex	.88	.94	.90	.94	.92	.90	.88	.89	.85
Attitude toward Force and Pressure in Sex	.30	.58	.69	.72	.66				
Recognition of the Importance of Family	.66	.70	.69	.81	.74				
Self esteem	.78	.73	.60	.80	.73				
Satisfaction with Personal Sexuality	.64	.85	.80	.88	.81				
Satisfaction with Social Relationships	.73	.81	.79	.84	.81				

[a] The test-retest coefficient is the correlation coefficient based upon two administrations of the same questionnaire two weeks apart.

[b] Cronbach's Alpha is based upon all the intercorrelations within each scale. Some sites do not have alphas because those scales were not administered in those sites. Ferndale High School is not included because the sample size was too small.

The results reveal that most of the scales have an adequate reliability, although most could also be substantially improved. Most of the alphas for all sites grouped together are in the .70′s and .80′s. Only attitude toward premarital sex has an alpha in the .90′s, and only attitude toward the use of pressure and force and attitude toward sexuality in life have alphas below .70. The test-retest correlations tend to be somewhat lower. The lower correlations may have been caused by the differences in populations, the smaller sample sizes for the test-retest correlations, or actual change during the two week elapsed time between the administrations. They nevertheless indicate that understanding of emotional needs and attitude toward the use of pressure and force may not be reliable. The alphas for each site indicate while there is considerable variation between the sites, none of the sites has very low reliability on all scales and that scales which are more reliable at one site also tend to be more reliable at other sites.

It should be realized that these reliability coefficients are based upon the ratio of the similarity of each person′s test-retest or multi-item scores to the amount of variation in each item across respondents. Thus, low reliability coefficients can be produced either by little similarity of scores between items or by little variation of scores across respondents. If it is the former, then the scale is not reliable; it the latter, then it may nevertheless be reliable, even though the reliability coefficient is low.

Characteristics of the Behavior Inventory

Many behaviors have at least three important components or aspects to them: the skill with which the behavior is completed, the comfort experienced during that behavior, and the frequency of that behavior. For example, the skill or effectiveness of communication between young people and their parents, the comfort felt during that communication, and the frequency of that communication are three important aspects of that communication. The Behavior Inventory measures these three aspects of several kinds of behavior. In particular, it measures:

- skills in taking responsibility for personal behavior
- social decisionmaking skills
- sexual decisionmaking skills
- communication skills
- assertiveness skills (saying "No")
- birth control assertiveness skills
- comfort engaging in social activities
- comfort talking about sex and birth control
- comfort talking with parents about sexuality
- comfort expressing concern and caring
- comfort being assertive sexually
- comfort having current sex life
- comfort getting and using birth control
- existence and frequency of sexual activity
- frequency of use of birth control
- frequency of communication about sex and birth control with parents
- frequency of communication about sex and birth control with friends
- frequency of communication about sex and birth control with boy/girlfriend

The questions measuring skills use 5-point scales; the questions measuring comfort use 4-point Likert type scales; while the questions measuring sexual activity, use of birth control, and frequency of communication ask how many times during the previous month the respondent engaged in the specified activity.

Steps in Developing the Behavior Inventory

Specification of outcomes. We reviewed the literature, examined the overall goals of sexuality education, and specified a variety of potentially important behavioral outcomes. In the same meetings with professionals discussed above, we supplemented and revised these outcomes. The same 100 professionals in the field anonymously rated the importance of each of the outcomes, and we found both the median and mean rating for each outcome. Nearly all the most important outcomes are included in these scales. We initially included some of the questions measuring skills and comfort in the early versions of the Attitude and Value Inventory, but later moved them to this questionnaire.

Initial generation of questions and pretesting. Measuring decisionmaking, communication, and other skills with questionnaires is very difficult. Some researchers have actually observed the skills exhibited in interpersonal behavior and coded those behaviors. Although some of those approaches appear to be valid, we could not use such approaches in our evaluation of thousands of students. We tried a variety of different formats. For example, we wrote scenarios and asked respondents to describe what factors they would consider when making decisions. Although some of the answers were illuminating, we did not have the resources to score the thousands of answers, and also the scoring did not appear valid. After a variety of attempts and pretests with small groups of adolescents, we settled on the current approach in which we identified key behaviors in various skills, and simply asked what proportion of the time respondents engage in those key behaviors.

The comfort questions were much easier to generate; they followed in a more straight forward manner from the specified outcomes.

The frequency questions were also easier to develop. We conducted mini-tests with both adults and adolescents to determine how reliably they could remember the frequency of various behaviors. In particular, we asked each member of a husband and wife team or a boyfriend and girlfriend going together how often they had done various things during the previous two weeks, previous month, and previous three months. We maintained their anonymity, but assigned identification numbers so that we could match the questionnaires from each couple, and then compare responses. These tests revealed that most adolescents could remember rather accurately how many times they had engaged in a variety of social and sexual activites during the last month, but they could not accurately remember the frequency of their activities for the last three months. Thus, we chose one month as our basic interval.

Review by adolescents. We gave this questionnaire to groups of adolescents and as before, asked questions about their understanding and willingness to answer the questions. They made only minor suggestions.

Review by psychologists. The same psychologists that we used above examined each item for clarity, unidimensionality, and comprehensibility. They suggested improvements that were incorporated.

Pretest of the questionnaire. About 100 adolescents completed the questionnaire and we examined their responses for evidence of confusion or error. Their responses indicated that the data were reliable.

Review by the Centers for Disease Control. CDC reviewed all the questions, suggested minor changes in some, and recommended that some be removed. The initial versions of the Behavior Inventory contained far more questions about the care with which respondents used different forms of birth control. The purpose of these questions was to better predict the probability of pregnancy. At the request of CDC, we deleted these both to shorten the questionnaire and to make the questionnaires more acceptable to everyone.

Review by sites. All the sites which were going to use the questionnaires reviewed them, and refined a few items.

Assessing the reliability. We determined the reliability of the questions and scales in two different ways. First, we found the test-retest reliability of the questions by administering the questionnaire to 42 participants once and then again two weeks later. Unfortunately, this method of measuring reliability was not wholly for two reasons. First, respondents who were not sexually active did not have to answer some of the questions about sexual activity, and thus those questions had very small sample sizes. Second, many social and sexual behaviors of young people will change from one two week period to the next, and the questions may appear unreliable, when in fact, they were reliable but the behavior changed.

The test-retest coefficients are presented in Tables 4-5 and 4-6. They indicate that the items have a great range of reliability coefficients. The scales measuring skills range from poor (.57) to excellent (.88). Certainly, most of them could certainly be improved in subsequent research. Some items measuring comfort have an adequate reliability, while others have an inadequate reliability, particularly those measuring comfort getting and using birth control. It should be noted that only 14 people answered these questions and thus these estimates of reliability are themselves unreliable. The items involving sexual activity have excellent reliability; the question about whether or not the respondents had ever had intercourse had a reliability of 1.00. The reliability of the items measuring sexual activity is particularly encouraging, because these are very important questions, and if there had been no change in behavior, the coefficients would have been even higher. The items measuring frequency of communication have an adequate, but not excellent reliability. This may have been caused by actual changes in the number of conversations about sexuality.

Because test-retest coefficients may be unduly low if change actually occurs, and also because some of the sample sizes used to find the test-retest coefficients were very small, we used a second method of measuring reliability wherever possible. In particular, whenever we had scales composed of more than one item, we found Cronbach's alpha for the scales. These are also presented in Table 4-5. They also indicate a range of reliabilities. In general they are acceptable, although some are low. Significantly, the scale, comfort

Table 4-5

Reliability Coefficients for the Scales in the Behavior Inventory

Test-Retest Corr.[a]	N	Alpha[b]	N	Scale
.84	39	.58	541	Social decisionmaking skills
.65	36	.61	464	Sexual decisionmaking skills
.57	41	.75	529	Communication skills
.68	32	.62	409	Assertiveness skills
.88	17	.58	243	Birth control assertiveness skills
.69	40	.81	517	Comfort engaging in social activities
.66	36	.66	461	Comfort talking with friends, girl/boyfriend, and parents about sex
.40	33	.63	133	Comfort talking with friends, girl/boyfriend, and parents about birth control
.62	39	.73	156	Comfort talking with parents about sex and birth control
.44	41	NA[c]	NA	Comfort expressing concern and caring
.68	35	.68	455	Comfort being sexually assertive (saying "No")
.70	37	NA	NA	Comfort having current sex life, whatever it may be
.38	14	.86	449	Comfort getting and using birth control

[a] The test-retest coefficient is the correlation coefficient based upon two administrations of the same questionnaire two weeks apart.

[b] Alpha is Cronbach's Alpha based upon all the intercorrelations within each scale.

[c] NA means not applicable because alpha requires two or more items, and these scales had only one item.

Table 4-6

Test-retest Reliability Coefficients for the Behavior Questions in the Behavior Inventory[a]

Corr[b]	Question	
1.0	Q43:	Ever had sexual intercourse
.78	Q44:	Had intercourse last month
.88	Q45:	Frequency of intercourse last month
.97	Q46:	Frequency of intercourse last month with no birth control
.89	Q47:	Frequency of intercourse last month using diaphragm, withdrawal, rhythm, or foam (without condoms)
.97	Q48:	Frequency of intercourse last month using pill, condoms, or IUD
.80	Q49:	Frequency of conversations last month about sex with parents
.81	Q50:	Frequency of conversations last month about sex with friends
.83	Q51:	Frequency of conversations last month about sex with boy/girlfriend
.71	Q52:	Frequency of conversations last month about birth control with parents
.69	Q53:	Frequency of conversations last month about birth control with friends
.75	Q54:	Frequency of conversations last month about birth control with boy/girlfriend

[a] N=41.

[b] The measure of reliability is the correlation coefficient between the two administrations of the questionnaire given two weeks apart.

getting and using birth control, which had a very low test-retest reliability (.38) has a high alpha (.86). This suggests that the sample size in estimating the test-retest reliability was too small or that comfort with using birth control may vary substantially over time. Other scales with low test-retest reliability coefficients also have higher alpha coefficients.

Assessing validity. The Behavior Inventory included questions about sexual behavior that should have been consistent with one another. There are two major examples of this. First, 10 different questions (from #39 to #48) provide information about whether or not the respondent has had sex. If the respondent has not had sex, the respondent should have answered "Does Not Apply" to Questions 39 to 42 which ask about comfort level getting and using birth control; otherwise the respondent should have circled answers 1 to 4. Questions 43 and 44 directly ask whether the respondent has ever had sex or had sex last month. Finally, questions 45 to 48 ask how many times the respondent had sex last month under varying conditions. All of these questions either directly or indirectly measure whether the respondent has ever had sex and thus they should be consistent.

Second, Question 45 asks how many times the respondent had sex last month; questions 46 to 48 ask how many times the respondent had sex using no method of birth control or different methods of birth control. Thus, the answer to Question 45 should be the sum of the answers to questions 46 to 48.

We wrote a computer program which searched for and printed out any type of inconsistent answers among these questions. Fewer than five percent of the cases had inconsistent answers, and these were typically excluded from further analysis. If the inconsistencies were minor, then the data were kept. For example, if a female respondent indicate that she had sex five times the previous month, but that she used birth control six times, the data were left unchanged. Thus, the remaining data are quite consistent, and this indicates that the answers to these questions are probably reliable and valid.

Different Versions of the Questionnaires

We first produced the Knowledge Test, Attitiude and Value Inventory, and Behavior Inventory, but these three basic questionnaires were far too long and comprehensive to administer in short programs. Consequently, we developed much shorter integrated questionnaires which included those questions from the basic questionnaires that were most important and which measured outcomes of programs that short programs might affect. This reduced the total number of questions from 158 to about 54 depending upon the exact version. Whereas the three basic questionnaires could not be administered during the same class period, the shortened integrated version could be so administered.

Because some sites agreed to administer only portions of the questionnaires, we developed different forms of the questionnaires. Although we continually tried to consolidate and use the same questionnaires in as many sites as possible, we ultimately created more than 100 different versions of the questionnaires. However, all of the versions included subsets of the questions found in the questionnaires in the appendix. The most commonly used shortened questionnaire is also in the appendix.

Method #2: Survey of Participants' Assessment of Programs' Effects

Characteristics of the Survey

To obtain a second kind of evidence for the effects of programs, we administered a Class Evaluation to all participants at the end or shortly after each program. The Class Evaluation asked the participants to evaluate the program and to assess its effects. In general, asking participants to assess how the program affected some outcome (e.g. knowledge) is not as valid a method as measuring that outcome both before and after the course and comparing the scores. However, this method can sometimes better assess subtle change that the pretest/posttest method does not pick up. Moreover, it is a somewhat different method with different assumptions, biases, and errors, and data from this method can profitably be compared with that from the first method.

These questionnaires were administered at about the same time as the first posttest administration of the Knowledge Test, Attitude and Value Inventory, and Behavior Inventory. Thus, essentially all the people who completed these larger questionnaires also completed the Class Evaluation.

Characteristics of the Questionnaire

The Class Evaluation contained two parts. The first part asked the respondents to rate numerous teaching skills of the teacher, characteristics of classroom interaction, and program structure and materials. The second part asked the participants to assess as accurately as possible the current or future effects of the course upon them. In particular, it asked how the course affected their:

- knowledge
- understanding of personal behavior
- clarity of values
- attitude toward birth control
- communication about sexuality
- communication with parents
- probability of having sex
- probability of using birth control if they have sex
- self respect
- satisfaction with social and sexual relationships
- decisionmaking effectiveness
- interpersonal social skills

Development of the Questionnaire

We used basically the same steps to develop and improve this questionnaire that we used to develop the questionnaires discussed above. We based the questionnaire upon the professionals' ratings of the important features and outcomes. When we generated items, we simply tried to ask straightforward questions measuring each important characteristic and outcome. We pretested the questionnaires by administering them to several groups of young people, asking then numerous questions about their understanding of the items and their suggestions for improving the items, and incorporating many of their suggestions.

Reliability and Validity of the Assessment

Normally when evaluators ask participants to assess the impact of a program, the participants give excessively positive ratings of the program and claim that it had a far greater impact than it probably had. This overstatement is particularly evident when the participants enjoyed the program and liked the teacher. Thus, in general, researchers should give less credence to course evaluations.

However, early in our evaluation efforts, we learned that many participants could more accurately recognize some of the more subtle changes that the course had produced in them and that the pretest/posttest questionnaires could not detect. Moreover, some of us, ourselves, participated in programs that we felt had subtle impacts that we could detect and estimate in course assessments, but that pretest/posttest questionnaires would not detect. Thus, we recognized that course assessments can provide useful additional evidence about the impact of programs.

To better determine whether the questionnaires were valid or whether the respondents simply gave excessively positive responses, we analyzed the respondents' assessments of several programs. Their assessments were congruent with our prior expectations, appeared reasonable, and suggested that the questionnaires did elicit valid data. In particular:

- Participants in shorter programs indicated that those programs had less impact than did participants in longer more comprehensive programs.

- Participants indicated there was greater change in those areas emphasized by their programs than in other areas.

- Participants indicated greater change in those areas that are more amenable to change (e.g., attitude toward use of birth control) than in those areas more difficult to change (e.g. self esteem).

- Participants indicated little or no change in those areas that other studies have indicated are little affected by sexuality education (e.g., engaging in sexual intercourse).

The fact that all these results were consistent with expectations provides some evidence for the construct validity of these questionnaires.

All the questionnaires ask about the effects in a straightforward manner. Thus, they also have a high face validity.

This was not the primary method of collecting data, and accordingly we did not attempt to measure the reliability of the questionnaire. However, in general, if questionnaires are valid, then they must also be valid.

On the other hand, the validity of these data should not be overestimated; they are undoubtedly less valid than those data from the first method, and despite the evidence of construct validity, they may exaggerate the positive impact of the course.

Method #3: Survey of Parents' Assessment of Program Effects

Characteristics of Survey

To obtain a third kind of evidence for the effects of programs, we administered a Parent Class Evaluation to some parents at the end or shortly after some of the programs. The Parent Class Evaluation asked the parents to evaluate the program and its effects. In general parents do not know as much about their children's behavior as their children do themselves. However, parents can obviously contribute a more adult perspective and possibly a more distant and objective perspective. Moreover, surveying parents is a somewhat different method with different assumptions, biases, and errors, and data from this method can profitably be compared with that from the first method. Finally, the views of parents are important in and of themselves, because of the need for their support.

Characteristics of the Questionnaire

The Parent Class Evaluation contained two parts. The first part asked how the course affected:

- their teenagers' knowledge
- ease of communication between the parents and their teenagers
- amount of communication between parents and their teenagers
- the effectiveness of their teenagers' communication skills
- their teenagers' decisionmaking skills
- other changes

The second part asked about the parents' knowledge about the course and their evaluation of the teacher, topics, materials, organization, strengths, and weaknesses.

Development of the Questionnaire

We used basically the same steps to develop and improve this questionnaire that we used to develop the student class evaluations discussed above, although we put much less effort into developing this questionnaire. We generated questions about program outcomes that the professionals rated most important and that parents would be most likely to be knowledgeable about. We pretested the questionnaires by administering them to several groups of parents and incorporating many of their suggestions for improvement.

Methods #1 to #3: Questionnaire Administration and Analysis

Questionnaire Approval

Our federal contract and the canons of social science research required that several different organizations formally approve these questionnaires. First, the Office of Management and Budget (OMB) formally approved them. This process took many months. Second, we created an official Human Subjects Review Board that was formally approved by the National Institutes of Health. In turn, that Board approved both the questionnaires and the procedures for administering the questionnaires and analyzing the data. Third, appropriate authorities (e.g. the School Boards) at every site where the questionnaires were used formally approved them. Finally, a parent or legal guardian of every respondent provided written approval. In most sites, parents signed a written letter which included both a description of the contents of the questionnaires and an authorization for the child to complete them.

As expected, obtaining the approval from all of these groups and individuals required many months and considerable effort. Ultimately every organization provided its approval, although some required that special versions of the questionnaire be created that omitted specific questions. The proportion of parents who gave their approval varied with the site. Organizations that had established ties with the parents (e.g. schools) obtained approval from about 99 percent of the parents. Organizations that had few or no ties with parents and the young people (e.g., youth serving agencies) had less success. Apparently their lower success was not caused by the unwillingness of parents to authorize their consent, but was caused by the young people's failure to take home, have signed, and return consent forms.

Although obtaining all the needed approvals required considerable time and effort, our substantial success demonstrated an important principle -- parents, schools, and other organizations are willing to provide approval to administer sensitive questions about sexuality when 1) there is a clear justification for asking the questions, 2) the research is important, 3) the rights and needs of the respondents are well protected, and 4) the research in general is completed in a professional manner. We were remarkably successful, far more than many people had believed we could be.

Although we asked far more questions and also more sensitive questions than previous studies, the approval process did hinder us from further improving the questionnaires. Once we had obtained approval for a particular version, we were often prevented from adding questions or significantly changing existing questions, even though we wanted to do so.

Administration of Questionnaires

The teachers of the courses administered the questionnaires. In evaluations of educational programs, evaluators commonly have test administrators administer the test. These administrators typically ask the teachers to leave the room, hand out the test, read the directions, monitor the classroom, and collect the tests. We did not do this for two reasons. First, in one site we did have a test administrator administer the questionnaires during the teacher's absence. We learned that the students were far less willing to answer carefully and honestly the personal and sensitive questions in these questionnaires when their teacher whom they trusted was not there to provide assurances. Thus, we concluded that using test administrators instead of the teachers would have made the data less valid rather than more valid. Second, we could not afford to pay test administrators to go to all the sites around the country each time the questionnaires were administered. Because questionnaires were administered at each site on many occasions, the cost would have been prohibitive.

Instead of sending test administrators, we provided lengthy and detailed written directions to the teachers and discussed the directions by phone. This appeared to be an acceptable approach.

The teachers made sure the facilities were adequate for the administration of the questionnaires, emphasized their importance to the class, handed them out, paraphrased their directions, monitored their completion, and collected them.

We simultaneously wanted to make the questionnaire voluntary, obtain high response rates, obtain valid data, and maintain anonymity. To ensure the completion was voluntary, both the directions and the teacher stressed that completing the questionnaire was truly voluntary and that deciding not to complete it would not affect grades (if the teacher actually gave grades). To obtain high response rates, both the teacher and the directions emphasized the importance of the study and encouraged cooperation. To obtain valid data, we tried to design clear and valid questionnaires, emphasized the importance of completing each question carefully, and divided the questionnaires among several sessions to avoid fatigue. To maintain anonymity we refrained from asking demographic questions that might serve to identify students, and the teachers physically separated students so that they could not see one another's questionnaires, informed students that they should put no identifying information such as their names on the questionnaire, requested that all students use normal lead pencils or pens with normal colored lead or ink, had students put their completed questionnaires in envelopes before turning them in, and mixed up the questionnaires (i.e., randomly ordered them) after they had been turned in. All of these procedures were explained to the students before they completed the questionnaires so that they would understand them and the rationale behind them and would answer questions more honestly.

Although the teachers had the opportunity to see the questionnaires, none of them "taught to the test." That is, they did not give special emphasis to the material in the questionnaires. In fact, the opposite was more of a problem; some of the teachers never covered some of the specific facts needed to answer a few of the knowledge questions.

Matching Pretests, Posttests and Delayed Posttests

Students who participate in programs and then drop out before their completion may be quite different from those who remain in the program. For example, they may be less motivated or less bright. Consequently, if their pretests but not their posttests are included in the data, the results would be biased. In particular the posttest scores would be unduly high. To eliminate this bias we matched each individual's pretest with that individual's posttest.

In order to match pretests with posttests and to maintain anonymity, we asked all respondents to write the numbers representing the month and day of their birthday on their questionnaire. We then matched these birthdays. Because questionnaires were grouped by class, and because there were typically about 25 students in each class, rarely were there two birthdays that were the same. When we did have identical birthdays we compared other characteristics of the respondent (e.g. sex) or other characteristics of the questionnaire (e.g., handwriting) and matched them.

If we could not match a respondent's pretest with either the respondent's posttest or delayed posttest, we excluded that respondent from our subsequent analysis. At some sites we were unable to match the questionnaires of only a very small percentage of respondents. At other sites, as many as 15 percent of the respondents failed to complete both a pretest and a posttest and were excluded from subsequent analysis.

Coding and Keypunching

We designed the questionnaires so that the vast majority of the questions were closed-ended questions and could be keypunched directly from the questionnaires. We read, but did not code and keypunch, the few open-ended questions.

Two reputable keypunching firms near Mathtech in Maryland keypunched the questionnaire data. Both firms used the key-to-disk computer software that checks each data entry as it is entered to make sure that it is an allowable (i.e., possible) number. In addition, both firms keypunched all questionnaires twice and verified them. These procedures assured a keypunching accuracy greater than 99.9 percent.

Cleaning the Data

As discussed above, we conducted a reliability and validity check of some of the questionnaires both to determine their reliability and validity and to identify the kinds of errors that students made. We uncovered two kinds of error that substantially lowered the reliability of some questions. First, some students obviously did not treat part or all of the questionnaire seriously and wrote down the same answer to numerous consecutive questions even when that was inappropriate. For example, on the Attitude and Value Inventory a few students wrote down the answer "4" to 10 or more consecutive answers. Second, a few students wrote down extreme answers to some questions. For example, when asked how often he had had sex the previous month, one student indicated 400 times. To find both these kinds of errors, we wrote computer programs that examined every data record and printed out all cases with either 10 consecutive answers or excessive numbers. We then examined each of these cases visually and made sure that in fact the case was bad. In the vast majority of cases, they were clearly bad and the entire case was removed from subsequent analysis. In a few cases the errors were clearly limited to one part of the questionnaire, in which case we kept the case, but recoded the offending answers as missing data.

At all times, we made the decision to change scores to missing data or to exclude the cases blindly. That is, we never knew how the decision would affect our results, and our decision was based solely upon the criterion of whether keeping or deleting the case would maximize the validity of the data.

In most of the data files we discarded between 3 and 6 percent of the cases. In none of the files did we discard more than 10 percent of the cases. However, we believe that discarding this small percentage of cases removed the most offending cases and substantially improved the quality of the data. The reliability coefficents improved considerably after cleaning the data.

Computer Analysis

We completed all of the computer analysis using SPSS (Statistical Package for the Social Sciences) on the DEC equipment at Catholic University, Washington, D.C.

We relied primarily upon the matched pairs t-test for tests of significance. When we examined pretest and posttest data, we applied the t-test to the means of the pretests and posttests. When we compared the experimental group with the control group, we applied the t-test to the mean change (posttest minus pretest) in the experimental and control groups.

Method 4: Collection of Pregnancy Data

Pregnancy Data at Ferndale High School

Methods of Collecting Data. To obtain pregnancy data for Ferndale High School, we used two different methods. The first did not work very well, so we developed a second more successful method.

Both methods are based upon the physical isolation of the Ferndale community. It and several other communities are located close to one another but are hundreds of miles from any large city. Consequently, the vast majority of teenagers in Ferndale who become pregnant attend a doctor or clinic in one of the communities around Ferndale; very few of them venture to San Francisco or elsewhere. According to the counselors who work with teenagers, most teenagers who believe they may be pregnant do not go to private doctors for pregnancy tests, but instead go to clinics because of cost, anonymity, and special programs for teenagers. In these communities near Ferndale, there are only six clinics and the vast majority of teenagers go to two of them. The other four are either more distant or have special limitations. For example, one of them is at Humboldt State College and is for students attending that school.

For the first method we gave each of the six clinics questionnaires and asked them to give a copy of the questionnaire to each teenager who came to the clinic and had a positive pregnancy test. We visited the clinics periodically to ensure that the clinic staff were correctly handing out and getting back the questionnaires. The questionnaires asked the teenagers what high school they attended and did they take the sexuality education course at Ferndale High School if they attended that school. We collected these questionnaires for four years and hoped that they would provide the yearly pregnancy rates for each school, for students taking the Ferndale High School sexuality course, and for those students not taking the course. We expected to compare students taking the course with those not taking the course, and expected to compare Ferndale High School with other high schools in the area.

Unfortunately, the clinic staffs failed to always hand out the questionnaires and many students who became pregnant did not complete and return the questionnaires. When this became apparent, it was too late to tighten its implementation and we adopted the second method discussed below. However, in general there is nothing theoretically wrong with this procedure and it will work if all teenagers do in fact complete and return the questionnaire.

For the second method, we obtained the yearly register of names for Ferndale High School and looked up all of the females in the two major clinics to determine how many had gotten pregnant prior to their eighteenth birthdays. This method did not require that teenagers complete questionnaires when they received their pregnancy tests; instead it relied upon clinic records, and thus we could collect data retroactively for as long as the clinics had kept accurate data. We collected it for seven years; three years prior to the program's implementation, and four years after the implementation. To maintain confidentiality of the clinic records, we hired someone working in the clinic to check all names on the school roster against the clinic records and to determine when the pregnancy occurred. Only the research director working in Maryland saw and checked the data.

We could not compare students who took the course with students in the school who did not take it, because nearly all students took it. Similarly we could not compare the pregnancy rates of the same students both before and after they took the course because the course is integrated into several different courses throughout high school. Instead, we compared the pregnancy rates at the school before the integrated program was implemented with the pregnancy rates after the program was implemented.

Quality of the Data. We could not take a survey of the Ferndale students to determine where they would go if they thought they were pregnant, nor could we survey former students to determine where they did or would have gone if they became pregnant. However, most people who worked with youth in the area consistently agreed that teenage girls would go to one of the two clinics where we checked the records. These data indicate that for the seven years, an average of 3.3 percent of the female students became pregnant. This is definitely less than the county average of about 8.6 percent for those years, but clinic personnel have observed that the Ferndale area has normally had lower pregnancy rates than other areas of the county. Thus, this lower figure is consistent with their expectations.

Undoubtedly, a few pregnant girls did go to the other clinics, private doctors, or elsewhere. However, this probably introduces a random (as opposed to systematic) error. That is, the number or percentage of teenage girls that became pregnant and did not go to the clinic is probably rather constant over time. If there is a bias over time, the more recent data are probably more complete than the older data and thus the bias is a conservative one. Two factors may have caused this: the more recent clinic records are probably more complete than the older records and a larger percentage of pregnant girls may now go to the clinic than before.

Pregnancy Data at University City High School

Collection of Pregnancy Data and Other Data. The school nurse has kept records of students' pregnancies for the past five years. She has learned of the pregnancies in a number of ways. When students think they may be pregnant, many go to the school nurse for help and advice. Others go to her when they have morning sickness. Some get an abortion without ever visiting the nurse, but the nurse can sometimes detect this from the doctors' medical excuses required for their absence. Some students also carry their pregnancies to term and the nurse either sees them in the hallway, hears of them, or helps them in some way. In sum, the nurse learns of a substantial percentage of the pregnancies in the school.

Her records indicate that 3.5 percent of the female students become pregnant each year. This is clearly less than the national average and indicates that either the school and its students were atypical or that she failed to detect a substantial percentage of the pregnancies. Although the first explanation may be partially true, the latter explanation is also probably true.

Although this error is a problem, it is not a major one, because it should also be a random (as opposed to systematic) error. That is, the nurse was just as likely to detect pregnancies among students who had taken the health class without a sexuality component as she was to detect them among the students who had taken the sexuality class. If so, her random error will not bias the conclusions.

Design of the Evaluation. We used a quasi-experimental design. During the last several years about half the students in the high school took the sexuality education course and the remaining half took a health education course that did not include any coverage of sexuality. We analyzed and compared the pregnancy data for both groups.

This design is not truly experimental because the school did not randomly assign students to the two classes. Thus it is not certain that the two groups were equivalent before taking the courses. In fact, the records from the registrar indicate that the students taking the sexuality education were both older and somewhat brighter and better students than the students taking the health class. There is, of course, no possible way we can undo this. However, we statistically controlled for year in school and grade point average for each group of students. This helped control for the differences between the students prior to taking the course.

Sampling. We collected data on all female students who attended University City High School for the last five years. There were about 6,000. Because we collected data on all the students, and not just a sample, one does not have to generalize from a sample to the entire school. However, one might be tempted to generalize from University City High School to other high schools and this is not fully legitimate, for University City is not necessarily typical. Its student population is primarily a middle class Black population with about 10 percent Whites.

Pregnancy Data at San Antonio

Methods of Collecting Data. Planned Parenthood staff carefully and laboriously examined all their records in their five clinics for the period June 1965-June 1982 for the teenage women who had positive pregnancy tests. The clinics' records provided the date of the visit, the patient's age, race, address, school, and marital status, and the outcome of the pregnancy test. When the record failed to provide the name of the patient's high school, the school was determined from the address. The Planned Parenthood staff selected all teenage girls who were 18 years old or younger, not married, and still attending school at the time of the visit, and counted these girls to obtain their estimates of pregnancies in each school each year.

Quality of the Data. These data contain one major type of error that may bias the results and a variety of smaller sources of error that should not bias the results. The major error may be very conservative and may under- estimate the impact of programs. Planned Parenthood clinics serve close to 50 percent of all teenage patients needing birth control or pregnancy tests. Although this is a large percentage, this nevertheless means that half of all pregnancies were missed. This raises the important question of whether or not the cases included in the analysis are a random or biased sample of all the pregnancies. Unfortunately, they are probably a biased sample for the following reason. During their presentation, Planned Parenthood encourages the young people to come to Planned Parenthood for birth control and for pregnancy tests if necessary. Thus, teenagers who have taken the Planned Parenthood course may be far more likely than those teenagers who have not taken the course to go to Planned Parenthood for a pregnancy test even though the Planned Parenthood course did not cause the pregnancy. Thus, these Planned Parenthood data are likely to provide more accurate estimates of the actual pregnancy rates in schools where they have provided programs and the data are likely to severely underestimate the pregnancy rates in those schools where Planned Parenthood did not have a program. This bias could either incorrectly indicate that the Planned Parenthood program increases pregnancies or it could obscure a reduction in pregnancies.

In addition there were a number of other sources of error that are likely to be both small and random. Thus, they are less important:

- Between June 1975 and September 1976 and also between October 1980 and April 1981 the records did not provide the patients' marital status or educational status. Thus, we made the assumption that all patients were single and in school unless contrary information was obtained from the income eligibility forms.

- Some teenagers may have lied about their marital status because of their concern about being unmarried and pregnant.

- When forms failed to provide the client's school, the client's address was used to determine the school. However, some students did not attend the school appropriate for their address; some may have attended private schools, alternative schools, schools for drop-outs and runaways, etc. Some students may have lied about their address because of their fear that their parents would be informed. Some patients lived right on the boundary and it was impossible to determine which school they actually attended. Finally, the boundaries of several schools changed in unknown ways over the years, because of rapid growth in the communities.

- Some school districts implemented changes in the junior and senior high school grade levels; they moved 6th grade to junior high and 9th grade to high school.

- Because of the larger number of records that had to be examined, there were undoubtedly some errors on the original records, and undoubtedly some additional errors were made when reviewing and copying information from these records.

- Some patients were not included because their month of birth was not given and they may have actually been just under 19 during the clinic visit, but were believed to be 19 or older.

- The records of a few patients were simply lost or misfiled and could not be found.

- During the middle of the data collection period, one clinic was closed, and its records were mixed among the records of the other clinics, some of which had already been studied. Thus, some of the records from the closed clinic were not examined. None were counted twice.

- Planned Parenthood no longer has complete and fully accurate records on the provision of sexuality education prior to 1978. This is not a significant problem because nearly all the programs then were very short.

Most of these problems would produce random (as opposed to systematic) error. For example, if the incorrect school is assigned to a patient because the boundaries unknowingly changed, this will add error, but it should not bias the results, because it is just as likely to affect the findings in one direction as the other.

Clinic and Birth Data at the St. Paul-Ramsey MIC Clinic

Methods of Collecting Data. The MIC clinics are general health and family planning clinics on the campuses of the high school. Appropriately, they kept health and enrollment records for the teenagers. From these records the clinic staff have tallied the following figures on an annual basis for the years 1976 through 1983: the percentage of students using the clinic for any purpose, the percentage of female students obtaining family services from the clinic, the number of births, and the birth rate. In turn, these data enable us to compare, for example, the birth rate when the clinic just opened and served only a few students with the birth rate several years later when the clinic served many students.

Quality of the Data

Because this was a rather comprehensive clinic associated with a hospital, its records are systematic and complete. Thus, the annual numbers of students that it serves for any purpose or for contraception should be highly accurate. Of course, the annual numbers of students who obtained contraceptives elsewhere are not known nor reported.

Because the data focus upon births and not upon pregnancies, those data should be complete. This is especially true, because the clinics are widely accepted and used by the students and they offer several different programs for pregnant teenagers. Thus, the birth data are probably valid.

However, if there is any bias, it is probably a conservative bias that would tend to obscure an impact. That is, the clinics were undoubtedly more likely to fail to record births when they first opened and served only a few students than several years later when they were better established, were better staffed, served more students, and had more programs for pregnant teenagers.

During the latter years of the 1976-1983 period, the population of Southeast Asian students in the schools increased substantially. In St. Paul they have a very high pregnancy rate that many kinds of programs have not yet been able to substantially reduce. To prevent the pregnancies of these students from obscuring the effects of the program, we excluded all Southeast Asian students from the rates for the academic years 1981-1982 and 1982-1983. The influx of Southeast Asians may also have increased the rates in 1980-1981, but we were not able to remove them from our calculations that year because of insufficent data.

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CHAPTER 5

UNIVERSITY CITY HIGH SCHOOL

Description of the Program

Community and School Characteristics

University City and its high school are located in a suburb of St. Louis. Despite both its name and its proximity to Washington University it is not a college community, and the parents of its student body are not disproportionately academicians. In fact, the socioeconomic status of the community is lower-middle to middle class and includes a substantial black population. The community is also predominantly Christian with a small Jewish population.

University City High School has 1,800 students grades 9-12. The student body is about 80 percent black and 20 percent white. In comparison with other schools, University City High School probably has a better administration and is more progressive. It also emphasizes health, broadly defined. For example, health education is required for graduation. This requirement is met by the human sexuality course, as well as by several health classes.

Program Background

The school first offered sex education in 1933 when Helen Manley introduced a course which she taught for many years. However, in 1974 Martha Roper introduced and began developing the present more comprehensive separate course on sexuality. In that year, the school hired her and she developed the course because there were increases in sexually transmitted diseases, teenage pregnancies, fights in school, and alcohol and drug abuse, while at the same time there were decreases in students' grades and parental involvement. Thus, there were a variety of student needs to be met, and from the beginning the course appropriately included various topics other than reproductive biology. At first, Roper presented a series of units on social and emotional health and sexuality within the traditional basic health class. After these units appeared successful, and after the administrators of curriculum approved them, they became a separate course.

Unlike the development of some other programs, a special committee composed of school personnel, parents, and other community members was not created. Instead, the program evolved slowly and was supported and approved at various stages by both the administration and the school board. Although a separate committee was never developed, there was and continues to be continual interaction among the teacher, administration, and community.

Philosophy, Goals, and Objectives

Because sexuality is a sensitive subject, and also because different parents in the community have different values about teenage sexual behavior, Roper developed six basic principles which guide her instruction and are communicated to parents:

- People deserve respect regardless of their race, sex, class, age, religion, or personal belief.
- Sexuality is part of each person's total being.
- Information about sexuality is important, but not sufficient.
- Greater clarity about one's sexual ethics leads to behavior which is more consistent with personal standards.
- Interpersonal communication is a crucial component of healthy sexuality.
- Sexuality education is an on-going process.

The first principle is especially important at University City High School where the student body is so heterogeneous. It applies both to behavior in general, and to discussions of feelings and attitudes in class.

These principles are closely linked with the broader goals of the course:

- To broaden the students' knowledge of human sexuality.
- To broaden students' understanding and skills in communication and conflict management.
- To broaden students' understanding and skills in conflict management.

In turn, these general goals have been translated into three more concrete behavioral objectives for each student:

- Students will be able to pass objective tests on sexual information.
- Students will demonstrate their increased communication skills by using them in class discussions and by writing short assignments.
- Students will be able to pass tests on the major principles of conflict management and will demonstrate these skills in homework assignments and special projects.

These goals and objectives are accomplished through a variety of techniques discussed below.

Course Structure

The course is taught primarily to juniors and seniors. It meets five days a week for 50 minutes each day and lasts an entire semester.

Typically, there are about twenty-eight students enrolled in each section. As in other courses, this class appears to be more personal and effective when the number of students is smaller. However, when the number of students drops much below twenty, the number of students in various subgroups becomes small, and the members of these groups have greater difficulty expressing their feelings.

The physical structure of the room is both motivating and versatile. As expected, the desks are movable and are frequently put in a circle for class discussions or rearranged in other configurations for other activities. The bulletin boards display numerous news clippings about health and sexuality.

These probably have two desired effects. First, they suggest that sexual topics are appropriate topics for discussion and that they can be discussed in a serious manner. Second, they provide information about recent research in these areas, addresses of health clinics, and other important concepts.

Coverage of Topics

The coverage of topics is truly comprehensive. At various times, the class focuses upon the following: nutrition, fitness, stress, rest and relaxation, chemical use and abuse, illness, biological aspects of sexuality, human sexual response and behavior, love and sex, values and morality, sexually transmitted diseases, contraceptive decisionmaking, teenage pregnancy, abortion, pregnancy and childbirth, parenting, making decisions about parenthood, independent living, making decisions about marriage, methods of improving marriage, marital dissolution, sex roles, communication skills, group dynamics, and family violence.

The topics are not covered in this order. The skills are taught first, so that they can be used during the coverage of other topics. Obviously, these topics emphasize sexuality, but they cover more than that. Some classes of students choose to focus upon additional topics such as men and masculinity, black sexuality, and sexuality of the mentally retarded. Given that the class meets daily for an entire semester, there is sufficient time to focus upon all of these topics and to cover some of them several times for reinforcement. Some of the topics are taught simultaneously. For example, communication skills can be reinforced as they are used in discussions of values and morality.

The course uses three texts: Finding My Way, Talking Together, and Person to Person.

Teacher Characteristics

Roper received her Master's Degree in Family Life Education at Columbia University, New York, and has subsequently studied at the Kinsey Institute for Sex Research, the Masters and Johnson Institute, the Institute for Family Research and Education, and New York University. She has taught at local universities and given numerous presentations on sexuality to local groups and national organizations. This training coupled with her teaching and presentations have encouraged her to learn and organize a great deal of material on human sexuality. They have also given her a fuller understanding of group processes and dynamics.

In the classroom, she portrays an unusual blend of qualities. On the one hand, she is unusually structured, task oriented, professional, and demanding. On the other hand, she is open, warm, concerned, empathic, and expressive.

Classroom Atmosphere and Interaction

Roper uses a variety of teaching and group facilitation techniques in the classroom. Sometimes she lectures; more commonly she facilitates class discussions, role playing, and skill building exercises.

However, during all of these activities, there is a very clear normative structure that develops over time. It has two major components. On the one hand, students quickly learn that it is appropriate to ask questions at almost any time, to discuss nearly all topics, and to express personal feelings and opinions. Roper encourages this by carefully listening to questions, answering them in a nonjudgmental manner so that students do not experience a loss of self esteem, comfortably discussing nearly all sexual topics, and serving as a role model. To a greater extent than many teachers, she expresses her own personal feelings. On the other hand, students are clearly instructed not to ridicule and attack other students. Students are allowed to express disagreements with other students and do so, but there is an emphasis placed upon listening to the other student, respecting that student, and then responding so that there is no loss of esteem.

These rules appear successful -- the students perceive the classroom as safe and supportive and they describe many of their feelings. This was demonstrated by a verbal exchange between two students. One female student suggested to a male student that he solve the problem with his girlfriend by using some of the techniques learned in class. The male responded with the comment, "You know this classroom is special; we can´t do these things out there." Although this suggests that students may have difficulty transferring their skills to the outside world, it also suggests that the students themselves recognize the unusual process taking place in the classroom.

In some classes which emphasize discussion, especially the discussion of thoughts and feelings, some students do not contribute at all and other more vocal students talk too much. Roper helps more shy students speak by creating a truly safe environment and rewarding participation. She also legitimizes expressing thoughts and feelings by seating students in a circle and asking each person to state a one sentence reaction to a class experience like a debate, a film, or an article. At the beginning of the course, students are informed that the class does emphasize communication and that they will be required to express their views in class. Students who later object to speaking in class are reminded of this requirement. She discourages overly vocal students by continually emphasizing the rights of other students to speak.

Many of the discussions in class are coordinated with specific homework assignments. They reinforce points made in class and sometimes facilitate communication with parents. Sometimes Roper requires that the parents read and discuss the assignments with their teenagers. The assignments also enable the course to cover more material thoroughly.

On the other hand, homework does produce some disenchantment. At the beginning of the course, some students are disappointed that the course is not simply a rap session, and some of them resent the more academic aspects of the course (e.g., writing papers and taking tests). This occurs despite Roper´s clear statement on the first day of class that these additional requirements exist.

Handling of Sensitive and Personal Comments or Questions

In Roper's class as in other sexuality classes, several problems can and occasionally do arise when sensitive topics are discussed; some students laugh and giggle in a distracting or derisive manner; students raise unusually sensitive or controversial issues or questions; and students ask intimate and inappropriate questions about the personal lives of the teacher or other students. Roper handles these problems in different ways.

From her past experience, she recognizes in advance those topics which are especially likely to elicit giggling and laughter, and she prefaces the discussion with remarks about appropriate behavior. For example, she comments that the topic is a sensitive topic, that some students will initially feel slightly uncomfortable about discussing the topic and will consequently laugh and giggle, and that it is "ok" to be slightly uncomfortable for a while. This explanation of laughter encourages students to refrain from laughing or making derogatory comments, and it also allows those students who really need to laugh to do so.

When students ask sensitive questions, three problems may arise. First, other students in the classroom may ridicule the student for asking such a sensitive question. Second, the student may be somewhat embarrassed about asking the question and thus may ask the question in a somewhat inappropriate manner. Third, the question itself may be controversial. In response to such questions, Roper uses both body and verbal language to indicate that the question is legitimate and that it deserves a serious answer. Thus, she makes certain that she does not reduce the esteem of the student who asked the question. She then further prefaces her answer by requesting that the students listen carefully to her answer and that they not misquote her. (From her past experience, she has learned that parents have become most upset at distortions of her statements, not her actual statements.) Finally, she answers the question as fully as possible, giving alternative viewpoints when appropriate.

When students ask questions that are too personal, she reminds them that although she encourages everyone to express feelings, all members of the classroom including herself have the right to refrain from discussing personal feelings and behavior. Because these norms apply to all members of the class equally, they are generally accepted. Sometimes the students ask personal questions, not because they are genuinely interested in the answer, but because they are trying to be funny, or because they are challenging Roper. This more commonly occurs at the beginning of the class when the class rapport and the class norms have not been well established. In these situations, Roper commonly uses humor to defuse the situations, and she also expresses reasons for the inappropriateness of the behavior. The humor prevents the student from experiencing significant loss of esteem, while the explanation of inappropriateness discourages repetition of such comments. Of course, at times, humor and "I" statements do not solve the problem, and Roper resorts to her authority as a teacher to demand respect from a student or remove him/her from the class. The principal understands the teacher and the course and counsel students appropriately.

Community Relations

Given the backlash against sexuality education in the midwest and in St. Louis in particular, the continued existence of the program and the community support is particularly impressive. There are several reasons for this success.

First, parents must sign the registration forms of all students for all courses. Although no special permission is required for this course on sexuality, the parents nevertheless have the option of preventing their children from taking it.

Second, Roper meets with the parents of her students each semester. During this meeting, she describes the course and carefully listens to the parents' concerns. She also demonstrates some of the same skills she teaches in the course.

Third, Roper's presentation of self during these meetings with parents and during other community involvements clearly helps. Because of her background and other professional activities, Roper presents a confident professional image. Significantly, her appearance and general life style are rather conservative, and this is reassuring to the parents. Her involvement in other community events and organizations also helps.

Fourth, the students recognize the vulnerability of sexuality education courses and adopt a protective attitude. This increases community acceptance. The students also write testimonials in their course evaluations and these are used for support when appropriate.

Fifth and very important, Roper receives the solid support of her administration. The Board of Education, the Superintendent of Schools, the principal, and the curriculum supervisor all visit the sexuality classes, discuss their content and dynamics, and provide support.

Evaluations of the Course

Student Evaluations

At the end of each course students and their parents completed questionnaires asking them to rate the teacher and the course on 1-5 Likert-type scales. In Table 5-1 to 5-3 are the results of those evaluations.

Here and also below, readers who prefer reading tables to reading text should feel free to peruse the tables, skip the interpretation of each table, and move to either the next section or the discussion section at the end of the chapter.

The evaluations of the course are very positive. On all but one of the positive teacher characteristics, the teacher received median scores between "a large amount" and "great deal." Similarly the teacher received very low scores on the negative characteristics. The only exception is that Roper encouraged students to talk with their parents "a medium amount." This allows some room for improvement, but it certainly remains a reasonable score. Roper succeeded in emphasizing basic values such as thinking about the consequences of sexual activity before having sex, but according to the students, to a small extent she talked too much about what is right and wrong.

Students viewed the classroom environment somewhat more critically, but they still gave it positive reviews. They claimed they did participate a large amount in classroom discussions, but they still had a small to medium amount of difficulty asking questions and expressing their thoughts about sexuality.

Overall, the students rated all major components of the course between good and excellent. The summary scores for the teacher and course are 4.6 and 4.3 respectively. These are certainly very high.

Evaluation of the Effects of the Program

Summary of the Evaluation Methods

The methods used generally to evaluate this and the other programs are described in Chapter 4 of this volume. Following is a brief summary of the methods used to evaluate the sexuality course at University City High School.

For two years questionnaires measuring knowledge, attitudes and values, and behavior were administered at the beginning of the course (pretests) and at the end of the course (posttests). When the course was taught in the fall, questionnaires were also administered about four months later at the end of the spring semester (2nd posttests). Questionnaires were administered to members of the sexuality class (experimental group) and a health education class without any sexuality component (control group). Unfortunately, an administrative error prevented the students from putting their birthdates on the cover sheet, and thus we were not able to match each student´s pretest with that student´s posttests, and we were not able to use match paired t-tests in the statistical analysis. Instead we used non-matched t-tests to test the significance of pretests versus posttests and we used the F test applied to a regression interaction term to test the significance of the change in the experimental group versus the change in the control group.

At the end of each sexuality course, students in the course and their parents in the course also completed assessments of the effects of the course upon the students. These were completed the same time they completed their evaluations of the course.

Finally, the University City High School registrar maintained school records for the students and the school health clinic collected pregnancy data for many years. For the years 1977 to 1983, we examined the following data for each student: semesters and years of attendance, class, grade point average, if and when they completed sexuality education, and if and when they became pregnant. To overcome the problem that some students may have gotten pregnant before they took the sexuality education class, we used as the unit of analysis a student-semester. That is, each case or record included the data for a given student for a given semester. If a student was at University City High School for six semesters, that student appeared in the data set six times. The dataincluded 5,300 student-semesters and 104 pregnancies. We compared pregnancy rates by observing both tables and multiple regression coefficients. These methods and data are described more fully in Chapter 4.

Impact upon Knowledge

Table 5-4 indicates that the course had little impact upon knowledge. The students in the sexuality course increased by a statistically significant amount their total knowledge, and their knowledge about physical development and reproduction, adolescent social and sexual activity, adolescent pregnancy, adolescent marriage, the probability of becoming pregnant and sexually transmitted diseases. However, most of these increases were small; in five of these topics areas the increases were no longer significant by the second posttest; and equally important the control group also increased their knowledge in many of these areas. Thus, in only one area, probability of becoming pregnant, did the sexuality class have a significantly greater increase than the control group, and that increase did not remain significant by the second posttest. In general, the sexuality class did learn some material during the class, but it did not learn significantly more than the control group.

This conclusion contrasts with the students' and parents' assessments of the impact of the course in Tables 5-10 and 5-11 respectively. Both students and their parents indicated that the students learned more about sexuality because of the course (median scores of 4.3 and 4.2 respectively).

There are several possible reasons why the pretest/postest analysis did not indicate that the sexuality course was more effective in increasing knowledge:

- The course may not have effectively increased knowledge.
- The course may not have emphasized the particular facts questioned in the knowledge test.
- The students may have learned some of the material early in the course and then forgotten it by the time they took the test many weeks later at the end of the semester.
- The students may have tired of test taking during the semester, and may not have put as much effort into the test on the posttests as the pretest, and thus performed more poorly on the postests.

Because the data from some other sites produced similar results, they are discussed more fully in the final chapter of this volume.

Impact upon Self Understanding

Table 5-5 indicates that the sexuality course had little impact upon self understanding. Students in the sexuality course did have statistically significant increases in the clarity of their personal values, their understanding of their personal social behavior, and their understanding of their personal sexual response; furthermore the increases in clarity of personal values and understanding of sexual response continued until the second posttest. However, when the changes in the experimental group are compared with the changes in the control group, the experimental group had a statistically significantly greater increase in only one area, understanding of personal social behavior.

The control group in turn had a significant increase in clarity of long term goals that lasted to the second posttest. However, this increase was not significantly greater than that of the experimental group.

These results differ somewhat from the student and parent assessments of the course (Tables 5-10 and 5-11). Students claimed that they have "somewhat more" understanding of themselves and their behavior, and their values and attitudes about their own sexual behavior are "somewhat more" clear (medians = 3.9). Parents thought that their teenagers' attitudes and values were "more" clear because of the course (median = 4.0).

Impact upon Attitudes

Table 5-5 also presents the data on attitudes toward gender roles, sexuality in life, the importance of birth control, premarital intercourse, the use of pressure and force in sexual activity, and the importance of the family. In none of these areas was there a statistically significant change in either the experimental or control groups.

The students' self assessments in Table 5-10 only have data on change in attitude toward the importance of birth control. The students claim that because of the course they think birth control is between "somewhat more" and "much more" important.

Impact upon Self Esteem and Satisfaction with Sexuality and Social Relationships

According to Table 5-5, there were no statistically significant changes in self esteem, satisfaction with personal sexuality, or satisfaction with social relationships in either the experimental or control groups.

In their course assessments (Table 5-10), students indicate they have between "about the same" and "somewhat more" respect for themselves, satisfaction with their social behavior, and satisfaction with their current sex life, whatever it may be. The respective medians are 3.8, 3.5, and 3.4.

Impact upon Skills

Once again the data indicate the course had little impact. According to Table 5-6 there was a significant increase in the sexuality class between the pretest and posttest scores for both social and sexual decisionmaking skills. However, this increase was very small, was not significantly greater than the increase in the control group, and did not last until the second posttest.

Surprisingly, the control group had a significant increase in communication skills between the pretest and second posttest, but the sexualityclass also had an increase and neither was significantly greater than the other.

In the students' assessment of the course (Table 5-10), they indicate that they talk about sexuality "somewhat more effectively" because of the course (median = 3.9). They also indicate that their decisions about their social and sexual behavior are "somewhat better" because of the course (median = 3.8 and 3.7).

Parents tend to confirm this. They indicate that their teenagers talk and listen to them a little more effectively (median = 3.4) and that they are more likely to make good decisions about social and sexual behavior (median = 3.8).

Impact upon Comfort with Different Activities

Table 5-7 indicates the course had little impact upon comfort. Between the pretest and the posttest, there was a slight increase in comfort being sexually assertive (saying "No" to unwanted sexual activity). However, this increase in the sexuality class was not significantly greater than the changes in the control group.

Both groups had changes in expressing concern and caring, but the pretest/posttest and pretest/second posttest data exhibit conflicting trends, suggesting the results are artifactual. Moreover, the change in neither group was significantly greater than that in the other.

The student assessment asked only one question about comfort. Students indicated that if they had sex, they would be "somewhat more" comfortable using birth control because of the course.

Impact upon Conversations about Sexuality

Table 5-8 indicates that the sexuality course had little effect upon the frequency of conversations about sexuality. Between the pretest and posttest, the number of conversations with parents about both sex and birth control increased significantly for the sexuality class. However, for the control group, the number of conversations about sex also increased. In none of the questions measuring the frequency of conversations is there a statistically significant difference between the experimental and control students.

In the student assessments, students indicated that they talk "about the same" amount with their parents because of the course (Table 5-10). Parents indicate that their teenagers talk a little more with them because of the course (Table 5-11).

Impact upon Sexual Intercourse and Use of Birth Control

According to Table 5-9 the course had no impact upon sexual intercourse or use of birth control. On none of the questions is there a statistically significant difference between the experimental and control groups.

However, because of the concern about the impact of sexuality education upon intercourse, it is interesting to note that the percentage of the sexuality class that was virgin at the beginning of the course was the same as the percentage during the second posttest. This indicates that none of the students had sex for the first time either during the course or during the following semester. In contrast, about 16 percent of the control group had sex for the first time during that same interval. Similarly, between the pretest and posttest the frequency of intercourse declined more in the sexuality class than in the control group. However, the importance of these findings should not be overemphasized because the differences between the two groups is not statistically significant.

The members of the sexuality class had a significant decrease in sexual intercourse with effective birth control on the first posttest, but then had a significant increase by the second posttest. This switch is probably caused by the decrease in sample size (far fewer students completed the second posttest). Once again the differences between the two groups is not significant.

In the student assessments, students indicated that they were neither more nor less likely to have sex because of the course. However, they also indicated that would be "somewhat more" likely to use birth control if they had sex. Parents thought their teenagers would be slightly more likely to have sex because of the course.

Impact upon Pregnancies

Both the bivariate tables and the bivariate regression showing the relationship between having completed sexuality education and getting pregnant indicate that the sexuality education course reduced pregnancies. That is, students who had completed the sexuality education course were less likely to become pregnant than students who had not completed the sexuality education course. Whether or not this result was statistically significant depended upon the measure of significance; some indicated that it was just barely significant at the .05 level, while others indicated that it was not quite significant.

However, this relationship is misleading because the students who take the sexuality class are different from the other students in several ways. First, they are more likely to be juniors or seniors, and upperclassmen are less likely to get pregnant than lower classmen (apparently the students who are most likely to become pregnant drop out of school before their senior year and any pregnancies they have after they drop out are not recorded in the school clinic). Second, the students in the sexuality class tend to be brighter, have higher grade point averages, and have clearer college or career plans. Third, according to the questionnaire data, the students in the sexuality class are less likely to have unprotected intercourse even before they take the course.

Thus, to more accurately determine the impact of the sexuality education program upon pregnancy, we should observe the relationship between sexuality education and pregnancy after controlling for these three factors. We can control statistically for class in school and grade point average because these data were collected; we cannot control statistically for amount of unprotected sexual activity because that measure is not included in the pregnancy data set. We used multiple regression to control for class and grade point average. Itsresults indicate that after controlling for class in school and grade point average, sexuality education had a much smaller impact upon pregnancies and this impact was clearly not statistically significant. If we had been able to statistically control for amount of unprotected sexual activity prior to participation in either sexuality class, the small impact may have diminished even further.

These data do not provide any evidence for the belief that the sexuality course reduced pregnancy, and it suggests that the course did not dramatically reduce pregnancy. However, because the number of pregnancies was rather small, the sexuality education program could have had a small impact upon pregnancies without producing statistically significant results.

Discussion and Summary of Results

These data support four findings:

- Both students and their parents rate the teacher and the course very positively. They consistently give it high scores on positive dimensions and low scores on negative dimensions.

- The pretest/posttest data strongly indicate that the sexuality course did not have a significantly greater impact than the health class without any sexuality component. On most outcomes the students in the sexuality class had the same mean scores on the first and second posttests as on the pretests. On a few outcomes, the students in the sexuality class increased their mean scores, but so did the students in the control class. On only 2 out of 84 possible outcomes did the sexuality class have a statistically significantly greater impact than the control group.

- In their course assessments, students claim that the course did affect them in a variety of positive ways. They felt that it increased their knowledge, self understanding, clarity of values, attitude toward the importance of birth control, frequency of conversations about sexuality with friends, girlfriends and boyfriends, comfort and effectiveness of talking about sexuality, probability and comfort of using birth control if they have sex, self respect, quality of decisions, and satisfaction with their social and sex lives. They did not see much change in the chances of their having sex or the frequency of conversations with parents.

- The pregnancy data indicate that the course did not have a statistically significant impact upon pregnancies. This suggests that the course did not have a large impact upon pregnancies, but the course may nevertheless have had a small impact without producing significant results.

Thus, both the pretest/posttest comparisons and the student assessments indicate that the course did not increase sexual activity. On other outcomes the two methods suggest differing conclusions.

In general, pretest/posttest comparisons are a more valid method of measuring program impact than are participant assessments, because participants typically tend to exaggerate the impact of a program and give overly positive responses. This is particularly true when they like the teacher. However, asdiscussed above, there may be reasons why the questionnaires failed to measure increases in knowledge. Because other programs produced similar results, the results and their validity are discussed more fully in the last chapter.

Nevertheless, these data indicate that even an exemplary program may not have much lasting impact upon the knowledge, attitudes, values, comfort, skills, and behavior. This finding is somewhat consistent with those of other programs in other disciplines -- education programs in general may increase knowledge, but they have less impact upon attitudes and behavior.

Table 5-1

Student Evaluations of University City Teacher[a]

Positive Questions

Median	Question
4.8	1. How enthusiastic was the teacher about teaching this course?
4.6	4. How much did the teacher talk at a level that the students could understand?
4.4	5. How much did the teacher care about the students?
4.4	6. How much respect did the teacher show to the students?
4.1	7. How much did the students trust the teacher?
4.3	8. How well did the teacher get along with the students?
4.3	9. How much did the teacher encourage the students to talk about their feelings and opinions?
4.3	11. How carefully did the teacher listen to the students?
4.1	12. How much did the teacher discourage hurting others in sexual situations (e.g., knowingly spreading VD or forcing someone to have sex)?
4.4	13. How much did the teacher encourage thinking about the consequences before having sexual relations?
4.4	14. How much did the teacher encourage students to think about their own values about sexuality?
4.6	15. How much did the teacher encourage the use of birth control to avoid unwanted pregnancy?
3.3	16. How much did the teacher encourage students to talk with their parents about sexuality?

Negative Questions

Median	Question
1.2	2. How uncomfortable was the teacher in discussing different things about sex?
1.0	3. How much did the teacher discuss topics in a way that made students feel uncomfortable?
2.4	10. To what extent did the teacher talk too much about what's right and wrong?

[a] N=185

Key: 1=not at all
2=a small amount
3=a medium amount
4=a large amount
5=a great deal

Table 5-2

Student Evaluations of the University City Classroom Environment[a]

Positive Questions

Median	Question
4.1	18. How much did students participate in class discussions?
3.7	19. How much were you encouraged to ask any questions you had about sex?
3.5	22. How much did you show concern for the other students in the class?
3.4	23. How much did the other students show concern for you?
3.9	24. How much were the students' opinions given in the class kept confidential (i.e., not spread outside the classroom)?
4.3	25. How much were you permitted to have values or opinions different from others in the class?

Negative Questions

Median	Question
1.7	17. How bored were you by the course?
2.5	20. How much difficulty did you have talking about your own thoughts and feelings?
2.3	21. How much difficulty did you have asking questions and talking about sexual topics?

[a] N=185

Key: 1=not at all
2=a small amount
3=a medium amount
4=a large amount
5=a great deal

Table 5-3

Student and Parent Summary Evaluations of the University City Course[a]

Median Scores

Student	Parent	Question
4.6	4.3	What is your evaluation of the teacher?
4.2	4.3	What is your evaluation of the topics covered in the course?
4.2	4.2	What is your evaluation of the materials used, such as books and films?
4.0	4.1	What is your evaluation of the organization and format of the program (e.g., length, location, and time)?
4.3	4.3	What is your evaluation of the overall program?

[a] N=185 for students
N=30 for parents

Key: 1=very poor
2=poor
3=average
4=good
5=excellent

Table 5-4

Effects of the University City Course upon Knowledge:
Mean Percent Correct on Pretests, Posttests, and 2nd Posttests;
and Significance Levels for Differences between Pretests and Posttests
and between Experimental and Control Group Changes

Outcome	Group	Pretest[a]		1st Posttest		2nd Posttest		Signif:[d] Pre vs 1st or 2nd Post	Signif:[e] Change in E-Group vs Change in C-Group
		N[b]	Mean[c]	N	Mean	N	Mean		
Total Knowledge	E	344	59.2	284	65.7			.000	NS
	C	216	50.6	213	53.6			.047	
	E	131	55.1			58	62.5	.001	NS
	C	126	52.8			41	56.5	NS	
Physical Development and Reproduction	E	344	77.3	284	81.0			.026	NS
	C	216	70.9	213	74.9			NS	
	E	131	74.7			58	82.2	.005	NS
	C	126	72.1			41	74.8	NS	
Adolescent Relationships	E							NS	NS
	C							NS	
	E	131	74.0			58	83.3	.012	NS
	C	126	71.4			41	80.5	.040	
Adolescent Social and Sexual Activity	E	344	61.6	284	68.7			.002	NS
	C	216	50.9	213	50.7			NS	
	E							NS	NS
	C							NS	
Adolescent Pregnancy	E	344	45.9	284	61.6			.000	NS
	C	216	40.7	213	50.4			.000	
	E							NS	NS
	C							NS	
Adolescent Marriage	E	344	45.2	284	53.0			.013	NS
	C	216	34.3	213	35.9			NS	
	E							NS	NS
	C							NS	
Probability of Becoming Pregnant	E	344	37.0	284	45.0			.000	.001
	C	216	30.4	213	29.7			NS	
	E							NS	NS
	C							NS	
Birth Control	E							NS	NS
	C							NS	
	E							NS	NS
	C							NS	
Sexually Transmitted Diseases	E	344	65.5	284	76.5			.000	NS
	C	216	57.2	213	61.9			NS	
	E							NS	NS
	C							NS	

Footnotes to Table 5-4

[a] E is the experimental group at University City High School and C is the control group at the same school. Both experimental and control groups completed the pretest at the beginning of the semester, the posttest at the end of the semester, and the second posttest about 3 to 5 months later.

[b] Some students did not complete the 2nd posttest. Thus, the sample size for the 2nd post test is smaller, and the data are presented on a separate line.

[c] The mean score is the mean percent of correct answers.

[d] Because of an error during administration, matched pairs t-test could not be used. Instead, unmatched t-tests were used. Smaller numbers represent smaller probabilities of results having occurred by chance. Thus, .000 is the probability rounded to three digits and represents the highest level of significance. If the probability of the results having occurred by chance was greater than .050, then the data were considered not significant and were not included in the table. Thus, NS means not significant at the .05 level.

[e] This column is the significance of the difference between the change in the experimental group and the change in the control group. The change in each group is either the 1st posttest minus the pretest or the 2nd posttest minus the pretest. Because of an error during administration, cases could not be matched and t-tests could not be used. Instead F-tests of regression terms were used.

Table 5-5

Effects of University City Course upon Self Understanding, Attitudes, Self Esteem, and Satisfaction with Sexuality and Social Relationships:

Mean Scores on Pretests, Posttests, and 2nd Posttests; and Significance Levels for Differences between Pretests and Posttests and between Experimental and Control Group Changes

Outcome	Group	Pretest[a] N[b]	Pretest[a] Mean[c]	1st Posttest N	1st Posttest Mean	2nd Posttest N	2nd Posttest Mean	Signif:[d] Pre vs 1st or 2nd Post	Signif:[e] Change in E-Group vs Change in C-Group
Clarity of Long Term Goals	E	264	3.8	259	3.9			NS	NS
	C	92	3.8	94	4.1			.009	
	E	165	3.8			165	3.8	NS	NS
	C	45	3.9			45	4.1	.016	
Clarity of Personal Sexual Values	E	261	3.7	256	3.9			.001	NS
	C	88	3.9	94	3.9			NS	
	E	161	3.7			161	3.9	.001	NS
	C	43	3.9			43	3.9	NS	
Understanding of Emotional Needs	E							NS	NS
	C							NS	
	E							NS	NS
	C							NS	
Understanding of Personal Social Behavior	E	262	3.6	259	3.7			.024	.024
	C	88	3.7	92	3.6			NS	
	E							NS	NS
	C							NS	
Understanding of Personal Sexual Response	E	259	3.6	257	3.8			.005	NS
	C	90	3.6	88	3.7			NS	
	E	160	3.6			160	3.8	.012	NS
	C	41	3.6			41	3.8	NS	
Attitude toward Gender Role Behaviors	E							NS	NS
	C							NS	
	E							NS	NS
	C							NS	
Attitude toward Sexuality in Life	E							NS	NS
	C							NS	
	E							NS	NS
	C							NS	
Attitude toward the Importance of Birth Control	E							NS	NS
	C							NS	
	E							NS	NS
	C							NS	
Attitude toward Premarital Intercourse	E							NS	NS
	C							NS	
	E							NS	NS
	C							NS	

Table 5-5 (Continued)

Outcome	Group	Pretest		1st Posttest		2nd Posttest		Signif: Pre vs 1st or 2nd Post	Signif: Change in E-Group vs Change in C-Group
		N	Mean	N	Mean	N	Mean		
Attitude toward Use of Pressure and Force in Sexual Activity	E							NS	NS
	C							NS	
	E							NS	NS
	C							NS	
Recognition of the Importance of the Family	E							NS	NS
	C							NS	
	E							NS	NS
	C							NS	
Self-esteem	E							NS	NS
	C							NS	
	E							NS	NS
	C							NS	
Satisfaction with Personal Sexuality	E							NS	NS
	C							NS	
	E							NS	NS
	C							NS	
Satisfaction with Social Relationships	E							NS	NS
	C							NS	
	E							NS	NS
	C							NS	

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[a] See footnote a in Table 5-4.

[b] See footnote b in Table 5-4.

[c] All mean scores are based upon five 1-5 Likert type scales. They were scored so that the possible range is 1 to 5 and increases represent improvement.

[d] See footnote d in Table 5-4.

[e] See footnote e in Table 5-4.

Table 5-6

Effects of University City Course upon Skills: Mean Score on Pretests, Posttests, and 2nd Posttests; and Significance Levels for Differences between Pretests and Posttests and between Experimental and Control Group Changes

Outcome	Group	Pretest[a]		1st Posttest		2nd Posttest		Signif:[d] Pre vs 1st or 2nd Post	Signif:[e] Change in E-Group vs Change in C-Group
		N[b]	Mean[c]	N	Mean	N	Mean		
Social Decisionmaking Skills	E	253	3.8	259	3.9			.002	NS
	C	143	3.6	153	3.7			NS	
	E							NS	NS
	C							NS	
Sexual Decisionmaking Skills	E	211	3.6	240	3.7			.042	NS
	C	111	3.5	138	3.5			NS	
	E							NS	NS
	C							NS	
Communication Skills	E							NS	NS
	C							NS	
	E	15	3.9			15	4.2	NS	NS
	C	13	3.2			13	3.9	.028	
Assertiveness Skills	E							NS	NS
	C							NS	
	E							NS	NS
	C							NS	
Birth Control Assertiveness Skills	E							NS	NS
	C							NS	
	E							NS	NS
	C							NS	

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[a] See footnote a in Table 5-4.

[b] See footnote b in Table 5-4.

[c] Mean scores are based upon multi-item indices which are scored so that the final scale has a possible range of 1 to 5 and increases represent improvements.

[d] See footnote d in Table 5-4.

[e] See footnote e in Table 5-4.

Table 5-7

Effects of University City Course upon Comfort with Different Activities:
Mean Scores on Pretests, Posttests, and 2nd Posttests; and Significance Levels for Differences between Pretests and Posttests and between Experimental and Control Group Changes

		Pretest[a]		1st Posttest		2nd Posttest		Signif:[d] Pre vs 1st or 2nd Post	Signif:[e] Change in E-Group vs Change in C-Group
Outcome	Group	N[b]	Mean[c]	N	Mean	N	Mean		
Comfort Engaging in Social Activities	E							NS	NS
	C							NS	
	E							NS	NS
	C							NS	
Comfort Talking about Sex	E							NS	NS
	C							NS	
	E							NS	NS
	C							NS	
Comfort Talking about Birth Control	E							NS	NS
	C							NS	
	E							NS	NS
	C							NS	
Comfort Talking with Parents about Sexuality	E							NS	NS
	C							NS	
	E							NS	NS
	C							NS	
Comfort Expressing Concern and Caring	E	267	3.4	268	3.4			NS	NS
	C	162	3.4	161	3.2			.045	
	E	37	3.6			37	3.3	.035	NS
	C	30	3.2			30	3.4	NS	
Comfort Being Sexually Assertive (Saying "No")	E	203	3.0	223	3.2			.012	NS
	C	128	3.0	135	3.0			NS	
	E							NS	NS
	C							NS	
Comfort Having Current Sex Life	E							NS	NS
	C							NS	
	E							NS	NS
	C							NS	
Comfort Getting and Using Birth Control	E							NS	NS
	C							NS	
	E							NS	NS
	C							NS	

Footnotes for Table 5-7

[a] See footnote a in Table 5-4.

[b] See footnote b in Table 5-4.

[c] The mean scores are based upon the following key:

1=very uncomfortable
2=somewhat uncomfortable
3=a little uncomfortable
4=comfortable

This key is the reverse of the key in the questionnaire. The scale was reversed so that larger numbers would represent improvement and be more similar to other scales in the evaluation.

[d] See footnote d in Table 5-4.

[e] See footnote e in Table 5-4.

Table 5-8

Effects of University City Course upon Frequency of Conversations about Sexuality:

Mean Scores on Pretests, Posttests, and 2nd Posttests;
and Significance Levels for Differences between Pretests and Posttests
and between Experimental and Control Group Changes

Outcome	Group	Pretest[a]		1st Posttest		2nd Posttest		Signif:[d] Pre vs 1st or 2nd Post	Signif:[e] Change in E-Group vs Change in C-Group
		N[b]	Mean[c]	N	Mean	N	Mean		
Q49: Frequency of conversations about sex with parents	E	268	1.2	259	2.1			.001	NS
	C	149	1.2	157	1.4			NS	
	E	43	0.8			43	2.0	.009	NS
	C	26	1.0			26	2.7	NS	
Q50: Frequency of conversations about sex with friends	E							NS	NS
	C							NS	
	E							NS	NS
	C							NS	
Q51: Frequency of conversations about sex with boy/girlfriend	E							NS	NS
	C							NS	
	E							NS	NS
	C							NS	
Q52: Frequency of conversations about birth control with parents	E	269	0.7	263	1.5			.005	NS
	C	147	0.7	156	0.6			NS	
	E							NS	NS
	C							NS	
Q53: Frequency of conversations about birth control with friends	E							NS	NS
	C							NS	
	E							NS	NS
	C							NS	
Q54: Frequency of conversations about birth control with boy/girlfriend	E							NS	NS
	C							NS	
	E							NS	NS
	C							NS	

[a] See footnote a in Table 5-4.
[b] See footnote b in Table 5-4.
[c] All mean scores are the means of the frequencies for the last month.
[d] See footnote d in Table 5-4.
[e] See footnote e in Table 5-4.

Table 5-9

Effects of University City Course upon Sexual Intercourse and Use of Birth Control:

Mean Scores on Pretests, Posttests, and 2nd Posttests;
and Significance Levels for Differences between Pretests and Posttests
and between Experimental and Control Group Changes

Outcome	Group	Pretest[a]		1st Posttest		2nd Posttest		Signif:[d] Pre vs 1st or 2nd Post	Signif:[e] Change in E-Group vs Change in C-Group
		N[b]	Mean[c]	N	Mean	N	Mean		
Q43:	E							NS	NS
Ever had sex	C							NS	
	E	42	.52			42	.52	NS	NS
	C	31	.45			31	.61	.023	
Q44:	E							NS	NS
Had sex last	C							NS	
month	E							NS	NS
	C							NS	
Q45:	E	214	1.8	272	1.1			.013	NS
Frequency of	C	108	1.8	160	1.6			NS	
sex last month	E							NS	NS
	C							NS	
Q46:	E							NS	NS
Frequency of	C							NS	
sex without	E							NS	NS
birth control	C							NS	
Q47:	E							NS	NS
Frequency of	C							NS	
sex with poor	E							NS	NS
birth control	C							NS	
Q48:	E	213	1.4	271	0.7			.014	NS
Frequency of sex	C	106	1.4	162	1.0			NS	
with effective	E	43	0.3			43	1.0	.024	NS
birth control	C	30	0.1			30	1.0	NS	

[a] See footnote a in Table 5-4.

[b] See footnote b in Table 5-4.

[c] For Questions 43 and 44, mean scores represent the proportions that have had intercourse. For Questions 45 through 48, mean scores are the means of the actual frequencies.

[d] See footnote d in Table 5-4.

[e] See footnote e in Table 5-4.

Table 5-10

Student Assessments of the Impact of the University City Course

Median[a]	Question
4.3	1. Do you know less or more about sexuality because of this course?
3.9	2. Do you now have less or more understanding of yourself and your behavior because of this course?
3.9	3. Are your attitudes and values about your own sexual behavior less or more clear because of this course?
4.4	4. Because of this course, do you now feel that using birth control when people are not ready to have children is less important or more important?
3.4	5. Do you talk about sexuality (e.g., going out, having sex, birth control, or male and female sex roles) with your friends less or more because of this course?
3.4	6. Do you talk about sexuality with your boy/girlfriend less or more because of this course?
3.1	7. Do you talk about sexuality with your parents less or more because of this course?
3.9	8. When you talk about sexuality with others (such as your friends, boy/girlfriend, and parents) are you less or more comfortable because of this course?
3.9	9. Do you now talk about sexuality less or more effectively (i.e. are you more able to talk about your thoughts, feelings, and needs and to listen carefully)?
3.1[b]	10. Are you less or more likely to have sex because of this course?
4.2	11. If you have sex, would you be less or more likely to use birth control because of this course?
4.1	12. If you have sex, would you be less comfortable or more comfortable using birth control because of this course?
3.8	13. Overall, do you now have less or more respect for yourself because of this course (i.e., do you have better feelings about yourself)?
3.5	14. Are you now less or more satisfied with your social behavior (e.g., going out and forming relationships) because of this course?
3.4	15. Because of this course, are you now less or more satisfied with your current sex life whatever it may be (it may be doing nothing, kissing, petting, or having sex)?
3.8	16. Do you now make worse or better decisions about your social life (e.g., going our and forming relationships) because of this course?
3.7	17. Do you now make worse or better decisions about your physical sexual behavior because of this course?
3.3	18. Do you now get along with your friends worse or better because of this course?

Footnotes for Table 5-10

[a] N=91

Key for Questions 1 to 15:

1=much less
2=somewhat less
3=about the same
4=somewhat more
5=much more

Key for Questions 16 to 18:

1=much worse
2=somewhat worse
3=about the same
4=somewhat better
5=much better

[b] For all questions, except #10, a median greater than 3.0 represents a positive change and a median less than 3.0 represents a negative change. For Question 10, the reverse is true.

Table 5-11

Parents´ Assessment of the Impact of the University City Course upon Their Teenagers

Median[a]	Question
4.2	1. Does your teenager know less or more about sexuality because of this course?
4.0	2. Are your teenager´s attitudes and values about sexuality less or more clear because of this course?
3.4	3. Are you less or more comfortable talking about sexuality with your teenager because of this course?
3.3	4. Have you actually talked about sexuality with your teenager less or more because of this course?
3.4	5. Does your teenager talk and listen to you about sexuality less or more effectively because of this course?
3.8	6. Is your teenager less likely or more likely to make good decisions about social and sexual behavior (e.g. examine alternatives and consider consequences) because of this course?
3.3	7. Is your teenager less likely or more likely to have sex soon because of this course?

[a] N=28

Key for Questions:
1=much less
2=less
3=about the same
4=more
5=much more

CHAPTER 6

COUNCIL ROCK HIGH SCHOOL

Description of the Program

Background

Council Rock High School is located just north of Philadelphia in Bucks County, Pennsylvania. The community is upper middle class, partly rural and partly suburban. It is mostly White, with only three percent of the population being non-white. To afford to live there and to remain upwardly mobile, both parents in many families work. The community is also politically conservative and predominantly Christian; about half the community is Catholic. The high school has about 3,300 students in grades 9-12.

The current sexuality education program includes two primary components -- substantial sexuality content in an 11th grade course, and a 12th grade seminar devoted to sexuality. In addition there is material in a 9th grade class devoted to personal and social relationships and there is a program for parents.

The program slowly evolved since 1972 from a health education class required by the State of Pennsylvania. In the 9th and 11th grade courses the teachers gradually made changes with the support and consent of the administration. In 1974 one of the teachers and the school administration proposed to the School Board a separate elective course for seniors that would cover more topics more thoroughly. After two years of development and revision, this was approved by the School Board.

Philosophy and Goals

The program is based upon several principles which serve as guidelines for instruction:

- Each person from birth is a sexual being.
- Sexuality education is an ongoing process.
- Sexuality education should incorporate family values and participation.
- Information about sexuality is important and it helps teenagers make better decisions for themselves.
- Interpersonal communication is a crucial component of healthy sexuality.
- People deserve respect regardless of their race, sex, class, age, religion, or personal beliefs.
- Exposure to different value systems and viewpoints encourages respect for them.
- Clarifying personal sexual ethics facilitates behavior consistent with these personal standards.
- Increasing self esteem helps prevent people from exploiting others or being exploited by others.

9th Grade Course

The year-long course for ninth graders is a general health education course on personal relations titled, "Me: Understanding Myself and Others." The course meets for one hour, two days per week and lasts 40 weeks. It covers a variety of issues: adjusting to high school, getting to know oneself, developing and practicing communication and decisionmaking skills, understanding the family, boy-girl relationships, friendships, taking care of the body, loss of a loved one, and the effects of one's appearance on feelings about oneself.

Although the 9th grade unit better prepares students for the subsequent courses, we did not evaluate it because it focused less upon sexuality and could not be validly evaluated by our questionnaires and the focus implicit in those questionnaires.

11th Grade Course

Eleventh graders also take a year-long course that meets three hours per week for 40 weeks. According to the curriculum, it covers a comprehensive group of topics:

- communication skills
- goal setting and decisionmaking skills
- conflict resolution skills
- self esteem and self image
- respect for the opinions and rights of others in social and sexual decisionmaking
- the advantages, disadvantages, and effectiveness of different kinds of birth control methods
- pregnancy, prenatal development, childbirth, and care for the newborn
- the physiological and emotional changes in infancy, childhood, adolescence, adulthood, and old age
- adult sexual functioning
- hygiene products for males and females
- diseases transmitted through sexual contact
- variations in attitudes and functions of sexual expression and orientation
- traditional and current sex roles; their conflicts, their effects on relationships, the effects of the media
- social pressures felt by the opposite sex
- dating procedures, etiquette, pressures, anxiety
- the relationship between love and sex
- personal needs in selecting a mate
- marriage laws, customs, adjustments
- budgeting in marriage
- effects of children on marriage
- advantages and disadvantages of alternative lifestyles to marriage

For each topic there are one or more clearly defined objectives and for each objective there are one or more activities. Many of the skills which are introduced in the first part of the course are reinforced throughout the remainder of the course. Although the teachers do occasionally present information in a lecture format, most class periods are devoted to a variety of different kinds of activities that involve the students, e.g., group discussions, small group brainstorming, role playing, reaction papers, debates, individual projects, and audio-visual presentations. Many of the activities are included in the third volume of this report, Sexuality Education: A Curriculum for Adolescents.

An unusual feature of the 11th grade course is that the class is separated by sex for about three-fourths of the year and is coed the remaining fourth. The teachers believe that this combination enables students both to speak up or ask questions more freely and to understand the opposite sex's point of view.

12th Grade Course

The senior seminar meets 1 hour per day, 5 days per week for 18 weeks. The course is an elective for seniors only and requires parental permission. Nevertheless, many seniors take it, because it has an excellent reputation. Although the course is coed, more female students than males typically take it.

The overall goal of the 12th grade course is to help students integrate knowledge about themselves and others with greater communication and decisionmaking skills. The course covers some of the same topics as the 11th grade course, but it covers them in greater depth and with greater maturity. The topics include:

- interpersonal skills -- communicating feelings and attitudes, trusting and sharing, receiving feedback
- interpersonal relationships -- peer friendships and family ties
- adolescent sexuality -- dating, being in love, and making sexual decisions
- alternatives to and consequences of sexual involvement; resisting sexual pressure
- contraception
- sex role socialization
- social issues -- pornography, prostitution, incest, rape, abortion, single parenthood, adoption
- lovemaking -- laws, societal and media influences, male and female response, problems
- sexual identity and orientation
- life planning -- independent living, career, marriage
- personal growth

All class sessions are informal discussion groups. That is, chairs are arranged in a circle and students can sit on the floor. If speakers come, films are shown, or other activities take place, they are nevertheless held informally and are preceded or followed by discussions.

Students keep journals which they share with the teacher. Journals are required, and they encourage students to apply lessons learned in class to their own lives.

Program for Parents

A separate course is taught each semester for parents of students in the school. About 30 to 50 parents typically attend it. It lasts for six weeks and covers a wide variety of concerns to the parents. During this course, the teacher describes the student program. This greatly facilitates understanding of the program and positive relations with the community.

Characteristics of the Teachers

The teachers include three men and three women. Five of them have an M.A. degree in health education; Dr. McCaffree, the director of the program has a Ph.D. in human sexuality education. All of the teachers have taken at least three or four workshops in sexuality education. McCaffree has participated in study programs abroad and has also directed training workshops for others. All of the teachers meet together regularly to develop and improve the program.

Evaluation of the 11th Grade Program

Student and Parent Evaluation

At the end of the year the students completed questionnaires asking them to rate numerous characteristics of the teacher, classroom environment, and overall program on 1-5 Likert-type scales. Parents were asked a smaller number of similar questions. The results of these ratings are presented in Tables 6-1 to 6-3.

In general, 11th grade students rated their teachers very positively. Although there was some variation among the teachers, all of them scored well. Nearly all the positive scores exceeded 4.0, and no teacher characteristic needed substantial improvement. The teachers scored lowest in trust, but a score of 3.8 indicates that the students had close to "a large amount" of trust in their teachers -- certainly not a poor evaluation. The students also indicated that the teachers emphasized many of the basic values of our society (e.g., thinking about the consequences of sexual relations before having sexual relations, thinking about personal values, using birth control to avoid unwanted pregnancy). According to the students, teachers talked too much about what's right and wrong only to "a small amount" (median score = 2.3). Thus, the teachers were apparently able to present values without being too moralistic and turning the students off. The teachers encouraged the students to talk with their parents between "a medium amount" and "a large amount." This is certainly a reasonable performance, but because the median score (3.6) was lower than other scores on positive items, this might be one area for possible improvement.

The classroom environment received reasonable ratings, although these ratings were lower than those for the teachers. There was a medium to large amount of classroom participation and concern for each other, but they could be increased. Students continued to have a small to medium amount of difficulty asking questions and expressing their thoughts about sexuality. Given the difficulty that most young people have talking about sexuality, this is encouraging, but also allows for improvement.

Both the students and their parents gave the course very high overall ratings. They rated all major aspects of the course as "good" or better, and the parents gave the teacher and course ratings of 4.4 and 4.2 respectively.

Evaluation of the Effects of the 11th Grade Course

Summary of the Evaluation Methods

The methods used to evaluate this and the other programs are described in Chapter 4 of this volume. Following is a brief summary of the methods used to evaluate the 11th grade sexuality course at Council Rock High School.

Questionnaires measuring knowledge, attitudes and values, and behavior were administered to the students in the sexuality course at the beginning and end of the course. Because the course extended over two semesters, these questionnaires were administered at the beginning of the fall semester and at the end of the spring semester.

Nearly all the juniors in the school took the course, and thus there was no comparable control group available. Consequently, in the statistical analysis we used two control groups -- the control group for the senior seminar on sexuality in the same school, and a control group consisting primarily of juniors from University City High School. Neither of these control groups is wholly adequate, but both are useful and have their individual advantages and disadvantages. The control group of seniors in the same school is very similar to the experimental group with two exceptions, the students are a year older and most of them have previously taken the 11th grade course. Neither of these two characteristics invalidates the control group for three reasons: 1) the 12th graders are quite similar to the 11th graders, 2) the 11th grade course has little impact, and 3) the statistical analysis focuses upon the change in scores as opposed to the actual level of the scores and on most outcomes the 12th graders would be expected to change about the same amount as the 11th graders. The control group from University City High School consists primarily of juniors who have not had any sexuality education. Thus, in these respects it is a good control group for the Council Rock 11th grade class. However, the University City control group consists primarily of blacks with a lower social economic background than the students in the Council Rock 11th grade class. Because the weaknesses of one control are the strengths of the other control group, the Council Rock 11th grade class is compared with each control group separately. If it does not exhibit greater change than either control group, this would strongly indicate it is not effective.

The 11th grade course lasted two semesters, while the control groups lasted one semester. Consequently, the change between the pretests and posttests of the sexuality class are compared with the change between the pretests and second posttests of the control groups. These second posttests were administered about the same time as the posttests for the 11th grade sexuality course.

Impact upon Knowledge

According to Table 6-4, the sexuality course may have increased knowledge a small amount. On the total knowledge test, the students did increase their mean score from 70.5 percent correct to 79.8 percent correct. This increase was statistically significant and it was also significantly greater than the senior control group at Council Rock. However, this increase was not significantly greater than the increase in the control group at University City High School. Thus, it is not clear whether the increase was due to the course or would have occurred anyway.

In the individual topic areas the results are more clear. In six of the eight topic areas, the sexuality students did not have a significantly greater increase than either control group, although in all six areas the class did have a significant increase in scores. This indicates that the sexuality students did learn during the year, but so did the control groups. In one knowledge area, birth control, the sexuality students did learn significantly more than the seniors, but not more than the University City control group. In the final knowledge area, adolescent pregnancy, the senior control group actually learned more than the sexuality class.

When the students and their parents assessed the impact of the course upon the students (Tables 6-10 and 6-11), both groups indicated that the students knew more about sexuality because of the course.

Impact upon Self Understanding

Table 6-5 indicates that the sexuality course had little impact upon self understanding. On none of the measures of self understanding did the sexuality students have a significantly different increase than the University City control group. On three of the five measures the class did not have a significantly greater change than the Council Rock control group. On the remaining two measures, clarity of long term goals and understanding of personal sexual response, the Council Rock senior control group actually had a significantly greater increase than the sexuality class. On both these outcomes, the sexuality class had a significant increase, but the senior control group had a greater increase. The seniors' increase in clarity of long term goals was probably due to their completing post graduation plans (e.g. going to a particular college) by the end of their senior year.

The students felt their self understanding and their values were somewhat more clear because of the course (medians = 3.7), and their parents confirmed this (median = 3.9) (Tables 6-10 and 6-11).

Impact upon Attitudes

Table 6-5 indicates that the sexuality course had little impact upon attitudes. Students in the sexuality course developed very small but significantly greater recognition of the importance of birth control, opposition to the use of force in sex, and recognition of the importance of the family, but these changes were not significantly greater than those in either control group. On only one attitude did the sexuality class change a significantly different amount than either control group -- the Council Rock senior control group became significantly more permissive regarding premarital sex, while the sexuality class did not change significantly. The University City control group changed a substantial amount in the permissive direction, but this was not statistically significant, perhaps because of the small sample size.

When asked about the impact of the course, students claimed that because of the course they felt birth control was more important (median = 4.4, Table 6-10).

Impact upon Self Esteem and Satisfaction with Sexuality and Social Relationships

Table 6-5 also indicates that the course had little impact upon self esteem, satisfaction with personal sexuality, or satisfaction with social relationships. Once again, the sexuality students' scores all moved in the desired direction, but so did the scores for the control groups.

Students indicated they had slightly higher self esteem and were slightly more satisfied with their relationships because of the course (Table 6-10).

Impact upon Skills

Table 6-6 indicates that the course had little impact upon skills. Sexuality students had small, but significant increases in social decisionmaking skills, sexual decisionmaking skills, communication skills, and assertiveness skills, but in none of these cases were their increases significantly greater than those of either control group.

In contrast, the students and their parents believe that the students make better decisions about social and sexual matters (medians = 3.6 and 4.0 respectively) (Tables 6-10 and 6-11).

Impact upon Comfort with Different Activities

According to Table 6-7, the sexuality course had little impact upon comfort with different social and sexual activities. In none of the eight areas of comfort did the sexuality students increase their comfort more than both control groups. In two areas, comfort in engaging in social activities and comfort expressing concern and caring the Council Rock senior control group, but not the University City control group, had a greater increase than the sexuality students.

In several of the comfort areas, sexuality students did increase their comfort between the pretest and posttest, but not more than control students.

In their course assessments (Table 6-10), students indicated that because of the course, they would be somewhat more comfortable using birth control if they were having sex. And indeed, Table 6-7 indicates there was a significant increase between the pretest and posttest. The control groups did not demonstrate a significant increase, but the sample sizes of the control groups are far too small to make any meaningful statement. Perhaps if the sample sizes had been larger, this would have been a significant outcome.

Impact upon Frequency of Communication

Table 6-8 indicates the course had little impact upon communication with parents, friends, or boyfriends or girlfriends. Although the sexuality students did have statistically significant increases, these increases were not significantly greater than those of either control group.

This is consistent with the students' assessment (Table 6-10). They claim that they talk with others about the same amount as a result of the course. Parents, however, indicated that because of the course they have talked with their teenagers a little more about sexuality (Table 6-11).

Impact upon Sexual Behavior

Finally, Table 6-9 suggests that the sexuality course had no significant impact upon behavior. Sexuality students did not have significantly greater increases or decreases than either control group in sexual intercourse or use of birth control. During the year the percentage of sexuality students that had ever had sex, the percentage that had sex last month, and the percentages using no birth control and effective methods of birth control all increased; but both control groups exhibited the same patterns.

The students claimed that they were neither less likely nor more likely to have sex because of the course (median = 3.0) (Table 6-10). They also claimed that because of the course, they would be more likely to use birth control if they had sex (median = 4.2). Their first claim, but not their second was supported by the pretest/posttest data. Parents thought their teenagers would be more likely to have sex because of the course (median =3.7) (Table 6-11). This also was not supported by the pretest/posttest data.

Summary

The data support three major findings:

- Both students and their parents believe the course is an excellent one. They give it very high ratings.
- The pretest/posttest data indicate that the course may have increased knowledge about birth control, but had little impact upon self understanding, attitudes, skills, comfort, or behavior.
- The students believe that, because of the course, they know more about sexuality, feel that birth control is more important, would be more likely to use birth control if they have sex, and would be more comfortable using birth control if they have sex. To a lesser extent they also believe that they understand themselves and their values better, they talk more effectively about sexuality, and make better decisions about social and sexual matters.

- Parents also believe their teenagers know more about sexuality because of the course, have clearer values and attitudes, and are more likely to make good decisions about social and sexual behavior. They also believe their teenagers are more likely to have sex soon because of the course.

On many outcomes in the pretest/posttest data, the sexuality students had statistically significant increases between the pretest and posttest, but these increases were not greater than those of the control group. This may be partially due to the fact that the sample sizes of the control groups were very small. However, it should also be realized that the increases in the experimental groups were typically very small, and sometimes the increases in the control were just as large or larger.

The students' assessments indicate that the course had a much greater impact, but typically these assessments are less valid, and in many cases they are clearly not supported by the pretests and posttests.

Because other programs had similar results, these results and their validity are further discussed in the last chapter.

Evaluation of the 12th Grade Class

Student and Parent Evaluation

According to Table 6-12, McCaffree, the 12th grade teacher, received extremely high ratings. She received median scores of 4.9 on many teacher characteristics and very high ratings on others. The only area for much possible improvement is encouraging students to talk with their parents.

In the classroom students did participate a large amount and had little difficulty asking questions or expressing their ideas about sexuality (Table 6-13). Students, however, did indicate that there was only a medium to large amount of concern for each other. This is certainly a reasonable amount, but has the potential for improvement.

The overall evaluations were also extremely high with the teacher and the course receiving overall evaluations of 4.9 and 4.8 respectively (Table 6-14).

Parents also gave the teacher and course high ratings (Table 6-14). On all major aspects of the course, they rated it between "good" and "excellent."

Evaluation of the Effects of the 12th Grade Course

Summary of the Evaluation Methods

For two years questionnaires measuring knowledge, attitudes and values, and behavior were administered at the beginning of the course (pretests) and at the end of the course (posttests). When the course was taught in the fall, questionnaires were also administered about four months later at the end of the spring semester (2nd posttests). Questionnaires were administered to members of the sexuality class (experimental group) and to another senior class without any sexuality component (control group).

Impact upon Knowledge

According to Table 6-15, the course had a small impact upon knowledge. On the one hand, the students in the sexuality course had significantly greater scores on the posttest than on the pretest, both for the total knowledge test and for the sub scales measuring knowledge about adolescent social and sexual activity, adolescent pregnancy, adolescent marriage, probability of becoming pregnant, birth control, and sexually transmitted diseases. On the other hand, these increases were quite small; students in the control group who did not take any sexuality component also increased their scores on several scales; and the effects were less apparent on the second posttest. Consequently, the sexuality class learned significantly more than the control group on only three scales -- the total knowledge test, the birth control scale, and the sexually transmitted diseases scale; and on the second posttest, the sexuality class did not learn significantly more than the control group on either the total knowledge test or any of the subtests.

When the students assessed the impact of the course on themselves, they were more positive. They felt they knew between "somewhat more" and "much more" because of the course (median = 4.3, Table 6-21). Similarly, parents felt that their children knew "more" about sexuality because of the course (median = 4.1, Table 6-22).

Impact upon Self Understanding

Table 6-16 indicates that the senior sexuality seminar had an impact upon self understanding, although the impact may not have been permanent. Between the pretest and posttest the sexuality students had a significantly greater increase than the control students in clarity of personal sexual values, understanding of emotional needs, and understanding of personal sexual response. Not only were these changes statistically significant, they were also substantively important. For example, the median scores for clarity of values increased from 3.5 to 3.8. These changes were clear goals of the course.

Unfortunately, none of these increases remained significant on the second posttest. The reason for this is interesting -- the median scores of the experimental group did not diminish; rather the control group partially caught up to the sexuality class. This suggests that the sexuality seminar facilitated self understanding, but without the seminar, students would reach the same level of understanding about a semester later. Note that this course is offered to seniors only and that the senior year is often a year of social growth and activity for many students.

On the second posttest, but not the first posttest, the control group demonstrated significantly greater improvement on clarity of long term goals than the experimental group. The control group did not surpass the experimental group, but instead started out further behind and then caught up. Thus, it is not clear whether the control group exhibited greater change simply because they started out further behind or because their class more effectively increased clarity of their long term goals.

Sexuality students felt they had "somewhat more" understanding of themselves and their behavior because of the course and that their values about sexuality were "somewhat more" clear because of the course (medians = 4.2 and 4.1 respectively, Table 6-21). Parents also thought their teenagers' values were more clear because of the course (median = 4.0, 6-22).

Impact upon Attitudes

The course apparently had little lasting effect upon attitudes (Table 6-16). Between the pretests and posttests, sexuality students increased their scores more than the control group on attitude toward sexuality in life. However, this difference diminished by the second posttest. Both groups increased their perceived importance of birth control, but neither group did so significantly more than the other. On attitude toward premarital intercourse, the results are conflicting -- on the first posttest, the sexuality students developed significantly more permissive attitudes than the control group, but by the second posttest, the change toward permissiveness in the control group was greater than that for the sexuality students. However, this latter difference in changes was not statistically significant. On attitude toward the use of pressure and force, the sexuality students exhibited significant change between pretest and posttest and between pretest and second posttest. However, the change was not significantly greater than that of the control group.

In their course assessments (Table 6-21), students reported that because of the course, they felt using birth control was between "somewhat more" and "much more" important (median = 4.6). This is the largest median in the table indicating that students strongly felt that the course had an impact upon their attitude about birth control. Note that in the pretest/posttest analysis their attitudes did change, but then, so did the attitudes of the control group.

Impact upon Self Esteem and Satisfaction with Sexuality and Social Relationships

According to Table 6-16, the sexuality class had little impact upon self esteem, satisfaction with sexuality, or satisfaction with social relationships. The sexuality students significantly increased their self esteem between the pretests and posttests and also between the pretests and second posttests. However, the control students also increased theirs, and consequently the increase in the experimental group was not significantly greater than the change in the control group. The sexuality students also increased their satisfaction with personal sexuality and their satisfaction with social relationships, but again the increases were not significantly greater than those in the control group.

In their self assessments (Table 6-21), students claimed that because of the course they had "somewhat more" respect for themselves (median = 3.9) and were between "about the same" and "somewhat more" satisfied with their social behavior (median =3.7) and their current sex lives (3.4).

Impact upon Skills

Table 6-17 suggests that the senior seminar had little impact upon skills. The sexuality class showed a significant increase on both the first and second posttests in both social and sexual decisionmaking skills. However, once again the control group also experienced an increase, and the increase in the sexuality class was not significantly greater than the increase in the control group.

Neither the sexuality class nor the control group demonstrated any significant change in communication skills, assertiveness skills, or birth control assertiveness skills.

Students claimed that because of the course, they talked about sexuality "somewhat more" effectively (median = 4.1, Table 6-21) and that their social and sexual decisions were "somewhat better" (medians = 3.9). Similarly, parents thought their teenagers communicated more effectively (median = 3.6, Table 6-22) and made better social and sexual decisions (median = 4.1).

Impact upon Comfort with Different Social and Sexual Activities

The data in Table 6-18 indicate the course had little effect on comfort. On most dimensions neither the experimental nor control group had a significantly greater increase than the other. However, in one area of comfort, comfort expressing concern and caring, the control group exhibited a significantly greater increase by the second posttest than the experimental group. For several reasons, this result is probably not the result of the sexuality course and is probably artifactual. First, the sample size of the control group was very small (N=33). Second, the control group had an unusually low score on the pretest and even on the second posttest, its median score was not as high as that of the experimental group. Third, the control group did not exhibit a significant increase between the pretest and posttest, an increase based upon a larger sample size.

On none of the other areas of comfort did either the experimental or control groups demonstrate significantly greater change. However, on pretest/posttest comparisons, the sexuality class did demonstrate significant increases in comfort engaging in social activities, comfort talking about sex, comfort talking about birth control, comfort talking with parents about sexuality, comfort being sexually assertive (e.g. saying "No"), and comfort getting and using birth control.

In their course assessments (Table 6-21) students claimed that they were "somewhat more" comfortable talking about sexuality with others (median = 4.1) and that they would be "somewhat more" comfortable using birth control if they did have sex (median = 4.3). Parents confirmed part of this -- they reported that they were more comfortable talking about sexuality (median = 3.5, Table 6-22).

Impact upon Frequency of Conversations about Sexuality

The sexuality course apparently increased conversations about sex with parents (Table 6-19). By the first posttest, the number of conversations per month for the sexuality students increased from 1.3 to 2.1, while for the control group there was a slight decline. These differences were statistically significant.

However, this increase in parent/child communication did not endure -- there was not a significant increase between the pretest and the second posttest in either the experimental or control groups.

During the semester, the sexuality students also increased their conversations about sexuality with their friends by a significantly greater amount than did the control group. However, this is only partly because the sexuality students increased their conversations (from 5.5 to 6.0) and is primarily because the control group decreased their conversations (from 6.6 to 4.2). Thus, this significant result may, or may not, have been caused by the course. This possible impact also did not endure -- by the second posttest neither group had a significant increase or decrease.

On measures of conversations about birth control, the sexuality students consistently significantly increased their conversations both during the semester and after the semester. However, the control group also increased their communication and the difference between the two groups was not significant.

The students claim that they have more conversations with their friends, boyfriend or girlfriend, and parents (medians = 3.8, 3.7, and 3.4 respectively, Table 6-21). Parents confirmed this. They reported that they actually talk more about sex with their teenagers because of the course (median = 3.6).

Impact upon Sexual Behavior

Table 6-20 indicates that the course did not have any impact upon sexual activity or the use of birth control. Both the sexuality class and the control group had increases in the percentage of people who had ever had sexual intercourse, but the differences between these increases were not significant. During the semester neither group reported a greater amount of sexual activity at the end of the semester than at the beginning, but several months after the course was over, both groups reported increases in the proportion of students who had sex the previous month and increases in the number of acts of intercourse. Once again, the differences between the two groups were not significant.

Neither group demonstrated any significant changes in the amount of sex with or without birth control.

To a remarkable extent, the sexuality students claimed that the course would not cause them to be either less likely or more likely to have sex (median = 3.0, Table 6-21). This is certainly consistent with the pretest/posttest data. In contrast, their parents thought they would be somewhat more likely to have sex because of the course (median = 3.6, Table 6-22).

The sexuality students also thought that because of the course they would be between "somewhat more" and "much more" likely to use some form of birth control if they had sex (median = 4.4). This assessment, however, is not consistent with the pretest/posttest data.

Journal Evaluations

Independently of this evaluation, the teacher asked the students to keep a diary or journal. She asked the students to think about how they had changed during the preceding five months, not how the course affected them. Following are excerpts from some of the more verbal and insightful students. However, other students expressed similar kinds of thoughts and were equally positive. In these excerpts, spelling errors have been corrected, names have been changed, and inappropriate parts have been deleted; otherwise they are not changed. Although journal entries have their own sources of bias and error, they nevertheless provide both a different type of evidence for the success of the program and additional insight into the effects of the program.

#1: I really thought a while before writing this entry. I guess I've gone through a lot in the past five months. Even though it seems like only 2 or 3. One thing for sure, your class has really been a great experience for me. I think I can deal with problems a lot better now and with a better understanding. I've learned who I actually am and how I think. I'm more in touch with my emotions and why I do the crazy things I do. I know what I expect from my friends, guys and family; what kind of a relationship I want and how not to rush them or rush into them. I think I've accomplished a lot in 5 months. I can see how I'm changing in so many ways, and I like it. I'm ready to start my life and get my future going. I've set goals for myself in life and am happy and excited to start them. I've become a lot closer to the ones I have and now can let go of them. I've developed a better relationship at home. My parents now have trust in me and support me. I'm gonna have ups and downs in life but I'm ready for them. All I want to do now is help others.

#2: I am really glad I took this course. It opened my mind up to a lot of things. I have now evaluated my relationship with Bob and have found I do play games. After I have looked over the past entries, I found if I could be there now, I would have handled things differently. Except for my pregnancy. I think overall, that all I think about is Bob. A lot of the things, I realize, prove to me that I rely on him a lot. For everything, emotions and physical and material things. I never realized how much he does play a part in my life. I think I do need somebody like him to protect me. I need a lot of security. I think it comes from my background. My parents got divorced when I was young and I lived with only my mother for awhile. I didn't see her much. Then she got remarried and I felt some kind of loss of her love. So I really am an insecure person. Now I see that my views to things having to do with human sexuality have changed considerably. Actually not only towards human sex but things like relationships with my parents and friends. I respect them a lot more and value them. I never really appreciated them like I do now. All in all, this class had a definitely positive affect on me and I am really glad I took it.

#3: I read back and I think my ideas and thoughts are becoming more independent. I have also been able to make more decisions on my own. A lot of feelings I had inside are a lot more straightened out than before. I used to feel I had a lot of turmoil inside and didn't understand how I felt. Now I do. I know where I'm coming from and how I feel about what's right and wrong for me. I used to not be able to accept my fathers' moods but now I can and understand, too. I understand John's and my relationship a lot better because we've been able to talk easier now. I could always tell him how I felt but it's now easier for him. I think it might be because I showed him this. I think I've been able to talk more openly with my mother. I think she began to realize I knew more than she thought. I think I've been exposed to more than she was at 17. She was always open but she always wanted to know what was going on. Now she doesn't because she knows my views.

#4: In the past five months this class has helped me a lot, especially with sexual feelings. I remember before Sept. there was a guy I went out with where I thought he'd be mad at me if I was a prude. Now, when I think about it, it does make me mad. I've learned that you never do something unless you want to. I've learned that from this class and from a discussion I had with my girlfriend about sex. Well without this class I know I wouldn't have been able to discuss it with her. It just started with me asking her about it. I felt open and comfortable in discussing it. Things have changed. I also now feel a lot more comfortable and sure about my feelings. If I like a guy, I think about what I am doing and I go into it with a positive outlook because I feel more positive about myself. On abortion I think I have changed my views. I was always for abortion no matter what the circumstances but by hearing people's opinions who were totally against abortion I was more aware of all of the negative aspects. I feel as though I communicate better, not only with people my own age but with my parents and grandparents and especially you. I feel very comfortable in talking to you and appreciate your honesty and openness. My relationship with you is something very new to me. I like it. I really hope to continue writing in a journal. I think it is important to be exposed to so much especially right before we get out into the "big, bad world."

#5: Wow! I just got done reading the majority of journals and its weird how I think I've changed and how my surroundings have changed. It seemed like in the beginning, every day was boring or else I was extremely depressed with myself. I seemed very confused and exhausted. Now I can see what the problems were; long days at school and work; not enough social time; 2 boyfriends that were heartaches; and I thought I looked like a blimp with zits. Poor kid, no wonder I felt rotten. Whereas, now I look at myself, I can see a happier me. A little more confident and also I can realize that I'm not such a bad person after all. Writing the journals has been fun. I always knew I could get a good answer and it's always been the best advice.

#6: I've gone through a lot of things and because I have I've acquired the ability to basically solve and sort through these problems. Sure I need someone to talk to sometimes, but I know that talking to someone is much better than holding it in. Looking back in my journal I know now how to deal with similar problems. I've bettered my relationship with my mother by talking to her about me and topics discussed in class. She accepts me as I am which makes me more confident about being an adult. My father and I have things to talk about but I know in the future that opportunity will be ours. I survived working, school and seeing David all at the same time. I know before I thought I'd fall apart but I stuck through it. I just read a part in my journal that said I didn't like David's control on me and that I didn't want a sexual relationship now. Why don't I listen to what I really want? Moving really affected me more than I thought at the time. It was a change for me and realization that I was leaving almost everything I've ever known as a person. Adjusting was good for me because I'm going to have to do it again. My beliefs and values as a Christian have been challenged again and again. They haven't changed for me but I can accept other people's behavior more readily because their values are not identical to mine. I said earlier in my journal I wanted to marry David. I was wrong. Partly I think I was flattered because someone his age likes me enough to marry me. I know I'm not ready to be married to David or anyone else. I know what my goals are as an individual and I'm willing to change if my wants change. I came into this class with so much uncertainty and I'm leaving with a way to deal with it. Think problems through, look at alternatives and then act on your decisions. The more I look back at our relationship I can see the struggles, the differences of opinions and the uncommonness in our goals. We get along with each other and we had a lot of fun but we both had to really work at it. I believe you should work at a relationship, but hardly any of ours came naturally. What was said today in class made me realize my motives for having a boyfriend now. I like being held and loved by someone. I don't like the part of myself that wants a boyfriend for acceptance reasons. Society's pressures - will I ever learn? My sexual feelings as a person have also been dealt with in my life and in my relationship to David. I realized I was wrong about my sexual involvement, I changed it and set my limit. Now I know I have somewhere to start from. I've established my limit and do not want to go beyond it. I really had to struggle with it. I realized that oral sex was wrong for me and that I didn't want to go that far with someone. I can say NO. And will if necessary. As I look back again into my journal I notice my definite uncertainty towards the future - college, moving, etc. I've left as many doors open as I could and I feel good about that because it relieves immediate pressure to make a decision. I have time and I don't have to rush into the future. But living each day to the fullest is more important. Letting people know I care about them and allowing myself to be me have all been realities. It's up to each of us, whether or not we want to be a positive or negative person. We have to help ourselves and make our own choices. Setting priorities are important too. I decided the other day after I talked to you that it's time for me to move on; leave my relationship with David. I know my decision is right and I've been telling him why and telling him that "No, I'm sorry but my feelings have changed and I want to move on." It was hard for me to do that because he just won't let go and I just have to be assertive and tell him "it's over." We learn out of our conflicts and mistakes and again I've learned from this. Really listen good to yourself and then act. The experiences and people that I've been exposed to have helped me to understand lots of things. All of these things; rape, incest, love, prostitution, abortion, role playing, Dr. Brown, Tracy, Lee, Cindy, Maria have shown me how these kinds of things fit into our society. By knowing their side you can see other peoples' reactions and for your own opinions. I'm not so critical of people and their actions since listening to these visitors. I am in no way a perfect person with all my pieces in perfect place. But I do leave this class knowing myself better and how I fit with everyone else. I'll make mistakes in the future but I can always start over and keep on trying. It is important to me that I had the chance to be a part of this human sexuality class.

#7: Well, I look back on the last five months and here I am with MY last five months of recorded history. What have I learned? Wow, that's tough. There is so much that I don't know what to write. I can say that I understand homosexuality so much better now than ever. I don't hate them or their sexual habits; it's just not my particular cup of tea. Maria and Cindy made me feel it was wrong, but Lee was human and he told you so. Living together is definitely the thing for me. Marriage is all good and fine, but before I tie the knot I'm gonna be sure. If you live together, you'll respect each others' ways of life, their standards etc. My view on premarital sex did change, though I think mostly because the more I look, the more I see society as a "premarital sex" society. But, it will be with the guy I love, when we start living together.

Contraception! Now this is funny! I didn't even know what the word meant. Not only did I not know what it meant, but I didn't know any other methods other than the pill and condom. It was a relief to see and learn about the other ways.

I think I'm a lot more open with myself than before. I know what I'm going through when I meet a guy and lose my breath. My morals about what I want to do on a date are still the same, and even stronger than before. It's ok to tell a guy to keep his hands off me! Overall I understand so much more. Seems like life is based on sex. It touches everyone differently and effects them and their lives either good or bad. Feelings are so fragile. They can be hurt so easily. Though with all the things we've learned we don't have any answers to what life is gonna be like later, and how now to solve the problems we may face later.

Discussion and Summary of Results

This evaluation suggests several conclusions:

- Both students and their parents believe the teacher and the course are excellent. They give very high ratings to nearly all aspects measured.

- The pretest/posttest data clearly indicate that the program had a few short term effects. By the end of the semester the course increased total knowledge and knowledge about birth control and sexually transmitted diseases. It also had a short term impact upon clarity of values, understanding of emotional needs, understanding of personal sexual response, and attitude toward premarital sex. In the behavioral realm, it also increased parent/child communication about sex and communication about sex with friends.

- The pretest/posttest data also indicate that the course did not have any long term effects. By the second posttest administered at the end of the following semester, none of the increases noted above was significantly greater for the experimental group than for the control group. Similarly, on none of the other possible outcomes measured did the experimental group increase significantly more than the control group. On two dimensions, clarity of long term goals and comfort expressing caring, the control group had significantly greater increases than the sexuality class, but these were probably artifactual.

- The class assessments by the students give a different picture. According to the students, because of the course, they are neither less or more likely to have sex. However, they felt that because of the course, they know more about sexuality; they understand their values, needs, and responses better; they communicate with other more about sexuality; they feel birth control is more important and would be much more likely to use birth control if sexually active; they make more responsible social and sexual decisions; and they have more self respect and more satisfaction with their social lives.

- The parent assessments tend to support those of their teenagers. They also feel that because of the course, their teenagers know more, have clearer values, talk more about sexuality with them, and make better decisions about social and sexual behavior. They also feel that their students are somewhat more likely to have sex because of the course.

- The journal entries indicate that the course helped the students think more clearly about themselves, their values, and their behavior; say "No" more readily to sexual behavior that was counter to their values; understand better other points of view; and better understand and communicate with their parents.

As noted elsewhere, the pretest/posttest data would generally be considered the most valid and those data indicate that the class has a small number of short term effects. However, the course assessments by students and their parents, and also the journal entries suggest that the course may have had other more subtle effects that cannot be readily measured by questionnaires. Because other sites had similar findings, they are discussed more fully in the last chapter of this volume.

Table 6-1

Student Evaluations of the Council Rock 11th Grade Teachers[a]

Positive Questions

Median	Question
4.3	1. How enthusiastic was the teacher about teaching this course?
4.4	4. How much did the teacher talk at a level that the students could understand?
4.1	5. How much did the teacher care about the students?
4.1	6. How much respect did the teacher show to the students?
3.8	7. How much did the students trust the teacher?
3.9	8. How well did the teacher get along with the students?
4.1	9. How much did the teacher encourage the students to talk about their feelings and opinions?
4.1	11. How carefully did the teacher listen to the students?
4.0	12. How much did the teacher discourage hurting others in sexual situations (e.g., knowingly spreading VD or forcing someone to have sex)?
4.4	13. How much did the teacher encourage thinking about the consequences before having sexual relations?
4.3	14. How much did the teacher encourage students to think about their own values about sexuality?
4.5	15. How much did the teacher encourage the use of birth control to avoid unwanted pregnancy?
3.6	16. How much did the teacher encourage students to talk with their parents about sexuality?

Negative Questions

Median	Question
1.3	2. How uncomfortable was the teacher in discussing different things about sex?
1.5	3. How much did the teacher discuss topics in a way that made students feel uncomfortable?
2.3	10. To what extent did the teacher talk too much about what's right and wrong?

[a] N=385

Key: 1=not at all
2=a small amount
3=a medium amount
4=a large amount
5=a great deal

Table 6-2

Student Evaluations of the Council Rock 11th Grade Classroom Environments[a]

Positive Questions

Median	Question
3.4	18. How much did students participate in class discussions?
3.6	19. How much were you encouraged to ask any questions you had about sex?
3.3	22. How much did you show concern for the other students in the class?
3.1	23. How much did the other students show concern for you?
3.7	24. How much were the students' opinions given in the class kept confidential (i.e., not spread outside the classroom)?
4.3	25. How much were you permitted to have values or opinions different from others in the class?

Negative Questions

Median	Question
2.2	17. How bored were you by the course?
2.6	20. How much difficulty did you have talking about your own thoughts and feelings?
2.4	21. How much difficulty did you have asking questions and talking about sexual topics?

[a] N=385

Key:
1=not at all
2=a small amount
3=a medium amount
4=a large amount
5=a great deal

Table 6-3

Student and Parent Summary Evaluations of the Council Rock 11th Grade Course[a]

Median Scores

Student	Parent	Question
4.2	4.4	What is your evaluation of the teacher?
4.1	4.2	What is your evaluation of the topics covered in the course?
4.0	4.2	What is your evaluation of the materials used, such as books and films?
3.9	4.1	What is your evaluation of the organization and format of the program (e.g., length, location, and time)?
4.2	4.2	What is your evaluation of the overall program?

[a] N=385 for students
N=113 for parents

Key:
1=very poor
2=poor
3=average
4=good
5=excellent

Table 6-4

Effects of the Council Rock 11th Grade Courses upon Knowledge: Mean Percent Correct on Pretests and Posttests; and Significance Levels for Differences between Pretests and Posttests and between Experimental and Control Group Changes

			Means[a]		Significance[b]	
Outcome	Group[c]	N	Pre	Post	Pre vs Post	Change in E-Group[d] vs Change in C-Group
Total Knowledge	E	411	70.5	79.8	.000	
	C1	32	79.7	86.2	.000	.032
	C2	41	51.6	56.5	NS	NS
Physical Development and Reproduction	E	411	84.6	88.9	.000	
	C1	32	92.7	92.2	NS	NS
	C2	41	72.1	74.8	NS	NS
Adolescent Relationships	E	411	83.4	92.5	.000	
	C1	32	92.7	99.0	NS	NS
	C2	41	71.4	80.5	.040	NS
Adolescent Social and Sexual Activity	E	411	70.4	78.4	.000	
	C1	32	78.9	84.4	NS	NS
	C2	41	48.8	48.8	NS	NS
Adolescent Pregnancy	E	411	56.7	61.5	.000	
	C1	32	63.3	80.5	.001	.015
	C2	41	49.4	50.6	NS	NS
Adolescent Marriage	E	411	58.8	72.3	.000	
	C1	32	75.0	84.4	NS	NS
	C2	41	34.1	42.7	NS	NS
Probability of Becoming Pregnant	E	411	45.3	60.8	.000	
	C1	32	42.7	57.3	.017	NS
	C2	41	27.2	30.1	NS	NS
Birth Control	E	411	73.9	87.3	.000	
	C1	32	88.8	92.9	.048	.000
	C2	41	39.2	48.4	.007	NS
Sexually Transmitted Diseases	E	411	71.8	81.3	.000	
	C1	32	81.3	86.3	NS	NS
	C2	41	58.4	63.9	NS	NS

Footnotes for Table 6-4

[a] Each mean score is the mean percent of correct answers.

Both the experimental and control groups completed the pretest at the beginning of the fall semester and the posttest at the end of the spring semester. For the control groups, the posttest used is actually their second posttest.

[b] All tests of significance are matched-pairs two-tailed t-tests. Smaller numbers represent smaller probabilities of results having occurred by chance. Thus, .000 is the probability rounded to three digits and represents the highest level of significance. If the probability of results having occurred by chance was greater than .050, then the data were not considered significant and were not included in the table. Thus, NS means not significant at the .05 level.

[c] C1 is the control group for the 12th grade course at Council Rock High School. C2 is the control group from University City High School.

[d] This column is the significance of the difference between the change in the experimental group and the change in the control group. The change in each group is the posttest minus the pretest.

Table 6-5

Effects of the Council Rock 11th Grade Courses upon Self Understanding, Attitudes, Self esteem, and Satisfaction with Sexuality and Social Relationships:

Mean Scores on Pretests and Posttests;
and Significance Levels for Differences between Pretests and Posttests
and between Experimental and Control Group Changes

			Means[a]		Significance[b]	
Outcome	Group[c]	N	Pre	Post	Pre vs Post	Change in E-Group[d] vs Change in C-Group
Clarity of Long Term Goals	E	396	3.5	3.6	.001	
	C1	37	3.3	3.7	.006	.046
	C2	16	4.2	4.5	NS	NS
Clarity of Personal Sexual Values	E	395	3.7	3.7	NS	
	C1	37	3.5	3.8	.025	NS
	C2	16	4.0	3.9	NS	NS
Understanding of Emotional Needs	E	399	3.6	3.6	NS	
	C1	36	3.4	3.6	.049	NS
	C2	15	4.0	4.2	NS	NS
Understanding of Personal Social Behavior	E				NS	
	C1				NS	NS
	C2				NS	NS
Understanding of Personal Sexual Response	E	382	3.5	3.6	.000	
	C1	36	3.3	3.7	.000	.011
	C2	15	3.5	3.9	NS	NS
Attitude toward Gender Role Behaviors	E				NS	
	C1				NS	NS
	C2				NS	NS
Attitude toward Sexuality in Life	E	396	3.7	3.7	NS	
	C1	36	3.6	3.8	NS	NS
	C2	15	3.5	3.8	.037	NS
Attitude toward the Importance of Birth Control	E	393	4.4	4.5	.000	
	C1	35	4.4	4.6	.042	NS
	C2	16	4.4	4.5	NS	NS
Attitude toward Premarital Intercourse	E	398	2.5	2.4	NS	
	C1	37	2.8	2.4	.021	.038
	C2	16	2.6	2.3	NS	NS

Table 6-5 (Continued)

			Means[a]		Significance[b]	
Outcome	Group[c]	N	Pre	Post	Pre vs Post	Change in E-Group[d] vs Change in C-Group
Attitude toward Use of Pressure and Force in Sex	E	398	4.3	4.4	.001	
	C1	37	4.6	4.6	NS	NS
	C2	17	4.3	4.3	NS	NS
Recognition of the Importance of the Family	E	396	4.4	4.5	.042	
	C1	36	4.6	4.7	NS	NS
	C2	15	4.5	4.5	NS	NS
Self-esteem	E	390	3.5	3.7	.001	
	C1	37	3.5	3.6	NS	NS
	C2	15	4.0	4.2	NS	NS
Satisfaction with Personal Sexuality	E	395	3.4	3.6	.000	
	C1	35	3.3	3.6	.034	NS
	C2	16	3.9	4.1	NS	NS
Satisfaction with Social Relationships	E	389	3.6	3.7	.008	
	C1	37	3.8	3.9	NS	NS
	C2	16	3.7	4.1	.034	NS

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[a] All mean scores are based upon five 1-5 Likert type scales. They were scored so that the possible range is 1 to 5 with increases representing improvement. See the second paragraph of footnote a in Table 6-4.

[b] See footnote b in Table 6-4.

[c] See footnote c in Table 6-4.

[d] See footnote d in Table 6-4.

Table 6-6

Effects of Council Rock 11th Grade Courses upon Skills:
Mean Score on Pretests and Posttests;
and Significance Levels for Differences between Pretests and Posttests
and between Experimental and Control Group Changes

			Means[a]		Significance[b]	
Outcome	Group[c]	N	Pre	Post	Pre vs Post	Change in E-Group[d] vs Change in C-Group
Social	E	381	3.7	3.9	.000	
Decisionmaking	C1	33	3.8	4.1	.003	NS
Skills	C2	29	3.5	3.5	NS	NS
Sexual	E	331	3.5	3.6	.023	
Decisionmaking	C1	25	3.6	3.7	NS	NS
Skills	C2	17	3.6	3.5	NS	NS
Communication	E	388	3.7	3.8	.000	
Skills	C1	32	3.8	4.1	.031	NS
	C2	24	3.6	3.9	NS	NS
Assertiveness	E	251	3.5	3.7	.012	
Skills	C1	23	3.8	4.0	NS	NS
	C2	21	3.9	3.9	NS	NS
Birth Control	E	137	3.8	4.0	NS	
Assertiveness	C1	46	4.2	4.4	NS	NS
Skills	C2	13	3.2	3.9	.028	NS

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[b] Mean scores are based upon multi-item indices which are scored so that the final scale has a possible range of 1 to 5 and increases represent improvements. See the second paragraph of footnote a in Table 6-4.

[b] See footnote b in Table 6-4.

[c] See footnote c in Table 6-4.

[d] See footnote d in Table 6-4.

Table 6-7

Effects of Council Rock 11th Grade Courses upon Comfort with Different Activities:
Mean Scores on Pretests and Posttests;
and Significance Levels for Differences between Pretests and Posttests
and between Experimental and Control Group Changes

Outcome	Group[c]	N	Means[a]		Significance[b]	
			Pre	Post	Pre vs Post	Change in E-Group[d] vs Change in C-Group
Comfort Engaging in Social Activities	E	389	3.4	3.4	NS	
	C1	31	3.4	3.6	.020	.015
	C2	26	3.4	3.4	NS	NS
Comfort Talking about Sex	E	315	2.6	2.8	.000	
	C1	24	2.5	3.0	.003	NS
	C2	23	2.6	2.9	NS	NS
Comfort Talking about Birth Control	E	232	2.5	2.8	.000	
	C1	19	2.7	3.1	.003	NS
	C2	17	2.6	2.6	NS	NS
Comfort Talking with Parents about Sexuality	E	293	1.9	2.1	.000	
	C1	26	2.0	2.4	.033	NS
	C2	21	2.1	2.4	NS	NS
Comfort Expressing Concern and Caring	E	411	3.6	3.5	NS	
	C1	33	3.3	3.6	.037	.040
	C2	30	3.2	3.4	NS	NS
Comfort Being Sexually Assertive (Saying "No")	E	301	2.7	2.9	.010	
	C1	24	2.4	2.9	.010	NS
	C2	24	2.9	3.0	NS	NS
Comfort Having Current Sex Life	E				NS	
	C1				NS	NS
	C2				NS	NS
Comfort Getting and Using Birth Control	E	79	2.8	3.1	.004	
	C1	5	2.8	2.9	NS	NS
	C2	6	3.2	3.0	NS	NS

Footnotes to Table 6-7

[a] The mean scores are based upon the following key:

Key: 1=very uncomfortable
2=somewhat uncomfortable
3=a little uncomfortable
4=comfortable

This key is the reverse of the key in the questionnaire. The scale was reversed so that larger numbers would represent improvement and be more similar to other scales in the evaluation. See the second paragraph of footnote a in Table 6-4.

[b] See footnote b in Table 6-4.

[c] See footnote c in Table 6-4.

[d] See footnote d in Table 6-4.

Table 6-8

Effects of Council Rock 11th Grade Courses upon Frequency of Conversations about Sexuality:

Mean Scores on Pretests and Posttests;
and Significance Levels for Differences between Pretests and Posttests
and between Experimental and Control Group Changes

			Means[a]		Significance[b]	
Outcome	Group[c]	N	Pre	Post	Pre vs Post	Change in E-Group[d] vs Change in C-Group
Q49: Frequency of conversations about sex with parents	E				NS	
	C1				NS	NS
	C2				NS	NS
Q50: Frequency of conversations about sex with friends	E	368	4.5	6.0	.001	
	C1	32	7.3	5.9	NS	NS
	C2	26	3.9	4.0	NS	NS
Q51: Frequency of conversations about sex with boy/girlfriend	E	356	2.4	3.7	.000	
	C1	33	1.8	3.0	NS	NS
	C2	26	2.1	4.2	NS	NS
Q52: Frequency of conversations about birth control with parents	E				NS	
	C1				NS	NS
	C2				NS	NS
Q53: Frequency of conversations about birth control with friends	E	366	1.8	2.8	.005	
	C1	34	1.9	2.3	NS	NS
	C2	26	1.0	3.1	NS	NS
Q54: Frequency of conversations about birth control with boy/girlfriend	E	346	1.3	2.3	.000	
	C1	34	0.4	0.9	NS	NS
	C2	26	1.3	2.6	NS	NS

[a] All mean scores are the means of the frequencies for the last month. The pretest was administered at the beginning of the fall semester and the posttest at the end of the spring semester. See the second paragraph of footnote a in Table 6-4.

[b] See footnote b in Table 6-4.

[c] See footnote c in Table 6-4.

[d] See footnote d in Table 6-4.

Table 6-9

Effects of Council Rock 11th Grade Courses upon Sexual Intercourse and Use of Birth Control:
Mean Scores on Pretests and Posttests;
and Significance Levels for Differences between Pretests and Posttests
and between Experimental and Control Group Changes

			Means[a]		Significance[b]	
Outcome	Group[c]	N	Pre	Post	Pre vs Post	Change in E-Group[d] vs Change in C-Group
Q43: Ever had sex	E	405	.35	.42	.000	
	C1	34	.24	.32	NS	NS
	C2	31	.45	.61	.023	NS
Q44: Had sex last month	E	403	.19	.25	.003	
	C1	34	.09	.26	.032	NS
	C2	29	.21	.24	NS	NS
Q45: Frequency of sex last month	E	405	0.9	1.4	.013	
	C1	34	0.4	0.9	NS	NS
	C2	30	0.6	1.4	NS	NS
Q46: Frequency of sex without birth control	E	407	0.3	0.6	.047	
	C1	34	0.0	0.2	NS	NS
	C2	30	0.5	0.6	NS	NS
Q47: Frequency of sex with poor birth control	E				NS	
	C1				NS	NS
	C2				NS	NS
Q48: Frequency of sex with effective birth control	E	404	0.4	0.8	.019	
	C1	34	0.4	0.3	NS	NS
	C2	30	0.1	1.0	NS	NS

[a] For Questions 43 and 44, mean scores represent the proportions that have had intercourse. For Questions 45 through 48, mean scores are the means of the actual frequencies. See the second paragraph of footnote a in Table 6-4.

[b] See footnote b in Table 6-4.

[c] See footnote c in Table 6-4.

[d] See footnote d in Table 6-4.

Table 6-10

Student Assessments of the Impact of the Council Rock 11th Grade Courses

Median[a]	Question
4.0	1. Do you know less or more about sexuality because of this course?
3.7	2. Do you now have less or more understanding of yourself and your behavior because of this course?
3.7	3. Are your attitudes and values about your own sexual behavior less or more clear because of this course?
4.4	4. Because of this course, do you now feel that using birth control when people are not ready to have children is less important or more important?
3.3	5. Do you talk about sexuality (e.g., going out, having sex, birth control, or male and female sex roles) with your friends less or more because of this course?
3.2	6. Do you talk about sexuality with your boy/girlfriend less or more because of this course?
3.1	7. Do you talk about sexuality with your parents less or more because of this course?
3.5	8. When you talk about sexuality with others (such as your friends, boy/girlfriend, and parents) are you less or more comfortable because of this course?
3.7	9. Do you now talk about sexuality less or more effectively (i.e. are you more able to talk about your thoughts, feelings, and needs and to listen carefully)?
3.0[b]	10. Are you less or more likely to have sex because of this course?
4.2	11. If you have sex, would you be less or more likely to use birth control because of this course?
4.1	12. If you have sex, would you be less comfortable or more comfortable using birth control because of this course?
3.4	13. Overall, do you now have less or more respect for yourself because of this course (i.e., do you have better feelings about yourself)?
3.3	14. Are you now less or more satisfied with your social behavior (e.g., going out and forming relationships) because of this course?
3.2	15. Because of this course, are you now less or more satisfied with your current sex life whatever it may be (it may be doing nothing, kissing, petting, or having sex)?
3.6	16. Do you now make worse or better decisions about your social life (e.g., going out and forming relationships) because of this course?
3.6	17. Do you now make worse or better decisions about your physical sexual behavior because of this course?
3.2	18. Do you now get along with your friends worse or better because of this course?

Footnotes to Table 6-10

[a] N=467

Key for Questions 1 to 15:

1=much less
2=somewhat less
3=about the same
4=somewhat more
5=much more

Key for Questions 16 to 18:

1=much worse
2=somewhat worse
3=about the same
4=somewhat better
5=much better

[b] For all questions, except #10, a median greater than 3.0 represents a positive change and a median less than 3.0 represents a negative change. For Question 10, the reverse is true.

Table 6-11

Parents' Assessment of the Impact upon Their Teenagers of the Council Rock 11th Grade Course

Median[a]	Question
4.1	1. Does your teenager know less or more about sexuality because of this course?
3.9	2. Are your teenager's attitudes and values about sexuality less or more clear because of this course?
3.4	3. Are you less or more comfortable talking about sexuality with your teenager because of this course?
3.4	4. Have you actually talked about sexuality with your teenager less or more because of this course?
3.4	5. Does your teenager talk and listen to you about sexuality less or more effectively because of this course?
4.0	6. Is your teenager less likely or more likely to make good decisions about social and sexual behavior (e.g. examine alternatives and consider consequences) because of this course?
3.7	7. Is your teenager less likely or more likely to have sex soon because of this course?

[a] N=113

Key for Questions:
1=much less
2=less
3=about the same
4=more
5=much more

Table 6-12

Student Evaluations of the Council Rock 12th Grade Teacher[a]

Positive Questions

Median	Question
4.9	1. How enthusiastic was the teacher about teaching this course?
4.9	4. How much did the teacher talk at a level that the students could understand?
4.9	5. How much did the teacher care about the students?
4.9	6. How much respect did the teacher show to the students?
4.8	7. How much did the students trust the teacher?
4.9	8. How well did the teacher get along with the students?
4.7	9. How much did the teacher encourage the students to talk about their feelings and opinions?
4.8	11. How carefully did the teacher listen to the students?
4.0	12. How much did the teacher discourage hurting others in sexual situations (e.g., knowingly spreading VD or forcing someone to have sex)?
4.7	13. How much did the teacher encourage thinking about the consequences before having sexual relations?
4.8	14. How much did the teacher encourage students to think about their own values about sexuality?
4.8	15. How much did the teacher encourage the use of birth control to avoid unwanted pregnancy?
3.7	16. How much did the teacher encourage students to talk with their parents about sexuality?

Negative Questions

Median	Question
1.1	2. How uncomfortable was the teacher in discussing different things about sex?
1.5	3. How much did the teacher discuss topics in a way that made students feel uncomfortable?
1.4	10. To what extent did the teacher talk too much about what's right and wrong?

[a] N=172

Key: 1=not at all
2=a small amount
3=a medium amount
4=a large amount
5=a great deal

Table 6-13

Student Evaluations of the Council Rock 12th Grade Classroom Environment[a]

Positive Questions

Median	Question
4.2	18. How much did students participate in class discussions?
4.4	19. How much were you encouraged to ask any questions you had about sex?
3.7	22. How much did you show concern for the other students in the class?
3.5	23. How much did the other students show concern for you?
4.3	24. How much were the students' opinions given in the class kept confidential (i.e., not spread outside the classroom)?
4.8	25. How much were you permitted to have values or opinions different from others in the class?

Negative Questions

Median	Question
1.8	17. How bored were you by the course?
2.4	20. How much difficulty did you have talking about your own thoughts and feelings?
2.2	21. How much difficulty did you have asking questions and talking about sexual topics?

[a] N=172

Key: 1=not at all
2=a small amount
3=a medium amount
4=a large amount
5=a great deal

Table 6-14

Student and Parent Summary Evaluations of the Council Rock 12th Grade Course[a]

Median Scores

Student	Parent	Question
4.9	4.7	What is your evaluation of the teacher?
4.7	4.2	What is your evaluation of the topics covered in the course?
4.6	4.0	What is your evaluation of the materials used, such as books and films?
4.5	4.1	What is your evaluation of the organization and format of the program (e.g., length, location, and time)?
4.8	4.3	What is your evaluation of the overall program?

[a] N=172 for students
N=71 for parents

Key: 1=very poor
2=poor
3=average
4=good
5=excellent

Table 6-15

Effects of the Council Rock 12th Grade Course upon Knowledge:
Mean Percent Correct on Pretests, Posttests, and 2nd Posttests; and Significance Levels for Differences between Pretests and Posttests and between Experimental and Control Group Changes

			Means[a]			Significance[b]	
Outcome	Group	N	Pre	1st Post	2nd Post	Pre vs 1st or 2nd Post	Change in E-Group vs Change in C-Group[c]
Total Knowledge	E	237	78.9	83.5		.000	.011
	C	76	80.2	81.6		NS	
	E	99	80.0		84.5	.001	NS
	C	32	79.7		86.2	.000	
Physical Development and Reproduction	E					NS	NS
	C					NS	
	E					NS	NS
	C					NS	
Adolescent Relationships	E					NS	NS
	C					NS	
	E					NS	NS
	C					NS	
Adolescent Social and Sexual Activity	E	237	82.5	86.3		.007	NS
	C	76	80.9	85.5		NS	
	E					NS	NS
	C					NS	
Adolescent Pregnancy	E	237	63.3	73.4		.000	NS
	C	76	61.2	70.1		.004	
	E	99	65.9		76.5	.000	NS
	C	32	63.3		80.5	.001	
Adolescent Marriage	E	237	67.9	73.8		.016	NS
	C	76	78.9	78.9		NS	
	E					NS	NS
	C					NS	
Probability of Becoming Pregnant	E	237	52.3	60.3		.000	NS
	C	76	43.4	47.4		NS	
	E	99	51.9		54.5	NS	NS
	C	32	42.7		57.3	.017	
Birth Control	E	237	84.5	90.0		.000	.017
	C	76	89.5	90.0		NS	
	E	99	86.3		93.2	.001	NS
	C	32	88.8		92.9	.048	
Sexually Transmitted Diseases	E	237	78.4	82.2		.009	.011
	C	76	80.5	78.4		NS	
	E					NS	NS
	C					NS	

Footnotes for Table 6-15

[a] Each mean score is the mean percent of correct answers.

Both experimental and control groups completed the pretest at the beginning of the program, the 1st posttest at the end of the program, and the 2nd posttest 3 to 5 months later. Pretests were matched with posttests. Because some students did not complete the 2nd posttest, the sample size for the 2nd posttest is smaller, and the data are presented on a separate line.

[b] All tests of significance are matched-pairs two-tailed t-tests. Smaller numbers represent smaller probabilities of results having occurred by chance. Thus, .000 is the probability rounded to three digits and represents the highest level of significance. If the probability of results having occurred by chance was greater than .050, then the data were not considered significant and were not included in the table. Thus, NS means not significant at the .05 level.

[c] This column is the significance of the difference between the change in the experimental group and the change in the control group. The change in each group is either the 1st posttest minus the pretest or the 2nd posttest minus the pretest.

Table 6-16

Effects of the Council Rock 12th Grade Course upon Self Understanding, Attitudes, Self esteem, and Satisfaction with Sexuality and Social Relationships:

Mean Scores on Pretests, Posttests, and 2nd Posttests;
and Significance Levels for Differences between Pretests and Posttests
and between Experimental and Control Group Changes

			Means[a]			Significance[b]	
Outcome	Group	N	Pre	1st Post	2nd Post	Pre vs 1st or 2nd Post	Change in E-Group vs Change in C-Group[c]
Clarity of Long Term Goals	E	229	3.5	3.7		.007	NS
	C	69	3.2	3.5		.005	
	E	116	3.6		3.7	NS	.039
	C	37	3.3		3.7	.006	
Clarity of Personal Sexual Values	E	225	3.5	3.8		.000	.002
	C	70	3.5	3.5		NS	
	E	115	3.5		3.9	.000	NS
	C	37	3.5		3.8	.025	
Understanding of Emotional Needs	E	228	3.5	3.7		.000	.008
	C	69	3.4	3.4		NS	
	E	116	3.5		3.7	.002	NS
	C	36	3.4		3.6	.049	
Understanding of Personal Social Behavior	E	225	3.4	3.5		.001	NS
	C	70	3.3	3.3		NS	
	E	117	3.4		3.6	.001	NS
	C	37	3.4		3.7	NS	
Understanding of Personal Sexual Response	E	225	3.5	3.7		.000	.029
	C	68	3.4	3.4		NS	
	E	116	3.5		3.8	.000	NS
	C	36	3.3		3.7	.000	
Attitude toward Gender Role Behaviors	E					NS	NS
	C					NS	
	E	113	3.8		3.9	.003	NS
	C	37	3.8		4.0	NS	
Attitude toward Sexuality in Life	E	228	3.8	3.9		.000	.009
	C	68	3.7	3.6		NS	
	E					NS	NS
	C					NS	
Attitude toward the Importance of Birth Control	E	227	4.6	4.7		.000	NS
	C	69	4.4	4.6		.007	
	E	117	4.6		4.8	.000	NS
	C	35	4.4		4.6	.042	
Attitude toward Premarital Intercourse	E	225	2.3	2.2		.004	.010
	C	68	2.6	2.6		NS	
	E	117	2.3		2.2	NS	NS
	C	37	2.8		2.4	.021	

Table 6-16 (Continued)

			Means			Significance	
Outcome	Group	N	Pre	1st Post	2nd Post	Pre vs 1st or 2nd Post	Change in E-Group vs Change in C-Group
Attitude toward Use of Pressure and Force in Sexual Activity	E	227	4.6	4.7		.003	NS
	C	68	4.5	4.5		NS	
	E	115	4.6		4.8	.000	NS
	C	37	4.6		4.6	NS	
Recognition of the Importance of the Family	E					NS	NS
	C					NS	
	E					NS	NS
	C					NS	
Self-esteem	E	222	3.5	3.7		.000	NS
	C	70	3.5	3.6		NS	
	E	114	3.5		3.7	.000	NS
	C	37	3.5		3.6	NS	
Satisfaction with Personal Sexuality	E	226	3.6	3.7		.001	NS
	C	68	3.5	3.5		NS	
	E	117	3.5		3.8	.001	NS
	C	35	3.3		3.6	.034	
Satisfaction with Social Relationships	E	229	3.7	3.8		.005	NS
	C	68	3.7	3.7		NS	
	E					NS	NS
	C					NS	

[a] All mean scores are based upon five 1-5 Likert type scales. They were scored so that the possible range is 1 to 5 and increases represent improvement. See the second paragraph of footnote a in Table 6-15.

[b] See footnote b in Table 6-15.

[c] See footnote c in Table 6-15.

Table 6-17

Effects of Council Rock 12th Grade Course upon Skills:
Mean Score on Pretests, Posttests, and 2nd Posttests; and Significance Levels for Differences between Pretests and Posttests and between Experimental and Control Group Changes

			Means[a]			Significance[b]	
Outcome	Group	N	Pre	1st Post	2nd Post	Pre vs 1st or 2nd Post	Change in E-Group vs Change in C-Group[c]
Social Decisionmaking Skills	E	227	3.9	4.0		.001	NS
	C	70	3.8	3.9		NS	
	E	121	3.9		4.0	.006	NS
	C	32	3.8		3.9	NS	
Sexual Decisionmaking Skills	E	204	3.6	3.8		.000	NS
	C	58	3.7	3.7		NS	
	E	109	3.7		4.0	.001	NS
	C	24	3.7		3.8	NS	
Communication Skills	E					NS	NS
	C					NS	
	E					NS	NS
	C					NS	
Assertiveness Skills	E					NS	NS
	C					NS	
	E					NS	NS
	C					NS	
Birth Control Assertiveness Skills	E					NS	NS
	C					NS	
	E					NS	NS
	C					NS	

[a] Mean scores are based upon multi-item indices which are scored so that the final scale has a possible range of 1 to 5 and increases represent improvements.

[b] See footnote b in Table 6-15.

[c] See footnote c in Table 6-15.

Table 6-18

Effects of Council Rock 12th Grade Course upon Comfort with Different Activities:

Mean Scores on Pretests, Posttests, and 2nd Posttests;
and Significance Levels for Differences between Pretests and Posttests
and between Experimental and Control Group Changes

			Means[a]			Significance[b]	
Outcome	Group	N	Pre	1st Post	2nd Post	Pre vs 1st or 2nd Post	Change in E-Group vs Change in C-Group[c]
Comfort	E	228	3.5	3.7		.001	NS
Engaging	C	70	3.4	3.4		NS	
in Social	E	119	3.5		3.5	NS	NS
Activities	C	31	3.4		3.6	.020	
Comfort	E	199	2.8	3.0		.001	NS
Talking	C	55	2.8	2.8		NS	
about Sex	E	101	2.9		3.0	.004	NS
	C	24	2.5		3.0	.003	
Comfort	E	154	2.8	3.0		.002	NS
Talking	C	39	2.7	2.8		NS	
about	E	83	2.8		3.0	.029	NS
Birth Control	C	19	2.7		3.1	.003	
Comfort	E	181	2.2	2.3		.018	NS
Talking with	C	57	2.2	2.4		NS	
Parents about	E	100	2.2		2.2	NS	NS
Sexuality	C	26	2.0		2.4	.033	
Comfort	E					NS	NS
Expressing	C					NS	
Concern and	E	126	3.7		3.7	NS	.036
Caring	C	33	3.3		3.6	.037	
Comfort	E	190	2.8	3.0		.004	NS
Being Sexually	C	55	2.6	2.8		NS	
Assertive	E	108	2.8		3.1	.011	NS
(Saying "No")	C	22	2.4		2.9	.010	
Comfort	E					NS	NS
Having	C					NS	
Current	E					NS	NS
Sex Life	C					NS	
Comfort	E	63	2.9	3.2		.016	NS
Getting and	C	13	2.9	3.0		NS	
Using Birth	E					NS	NS
Control	C					NS	

Footnotes for Table 6-18

[a] The mean scores are based upon the following key:

Key: 1=very uncomfortable
2=somewhat uncomfortable
3=a little uncomfortable
4=comfortable

This key is the reverse of the key in the questionnaire. The scale was reversed so that larger numbers would represent improvement and be more similar to other scales in the evaluation.

[b] See footnote b in Table 6-15.

[c] See footnote c in Table 6-15.

Table 6-19

Effects of Council Rock 12th Grade Course upon Frequency of Conversations about Sexuality:

Mean Scores on Pretests, Posttests, and 2nd Posttests;
and Significance Levels for Differences between Pretests and Posttests
and between Experimental and Control Group Changes

			Means[a]			Significance[b]	
Outcome	Group	N	Pre	1st Post	2nd Post	Pre vs 1st or 2nd Post	Change in E-Group vs Change in C-Group[c]
Q49: Frequency	E	232	1.3	2.1		.000	.044
of conversations	C	71	1.9	1.7		NS	
about sex	E					NS	NS
with parents	C					NS	
Q50: Frequency	E	220	5.5	6.0		NS	.011
of conversations	C	68	6.6	4.2		.020	
about sex	E					NS	NS
with friends	C					NS	
Q51: Frequency	E	227	3.5	4.4		.022	NS
of conversations	C	68	2.7	2.8		NS	
about sex	E	121	3.6	5.0		.028	NS
with boy/girlfriend	C	33	1.8	3.0		NS	
Q52: Frequency	E	233	0.3	0.9		.000	NS
of conversations	C	70	0.3	0.6		.011	
about birth control	E					NS	NS
with parents	C					NS	
Q53: Frequency	E	229	1.9	3.0		.000	NS
of conversations	C	71	1.6	2.1		NS	
about birth control	E	123	2.0		3.0	.031	NS
with friends	C	34	1.9		2.3	NS	
Q54: Frequency	E	224	1.5	2.2		.005	NS
of conversations	C	70	1.1	1.4		NS	
about birth control	E	121	1.4		2.5	.019	NS
with boy/girlfriend	C	34	0.4		0.9	NS	

[a] All mean scores are the means of the frequencies for the last month.
[b] See footnote b in Table 6-15.
[c] See footnote c in Table 6-15.

Table 6-20

Effects of Council Rock 12th Grade Course upon Sexual Intercourse and Use of Birth Control:

Mean Scores on Pretests, Posttests, and 2nd Posttests;
and Significance Levels for Differences between Pretests and Posttests
and between Experimental and Control Group Changes

			Means[a]			Significance[b]	
Outcome	Group	N	Pre	1st Post	2nd Post	Pre vs 1st or 2nd Post	Change in E-Group vs Change in C-Group[c]
Q43:	E	239	.48	.53		.010	NS
Ever had sex	C	74	.27	.31		NS	
	E	125	.43		.58	.000	NS
	C	34	.24		.32	NS	
Q44:	E					NS	NS
Had sex last	C					NS	
month	E	122	.29		.43	.004	NS
	C	34	.09		.26	.032	
Q45:	E					NS	NS
Frequency of	C					NS	
sex last month	E	122	1.6		3.0	.002	NS
	C	34	0.4		0.9	NS	
Q46:	E					NS	NS
Frequency of	C					NS	
sex without	E					NS	NS
birth control	C					NS	
Q47:	E					NS	NS
Frequency of	C					NS	
sex with poor	E					NS	NS
birth control	C					NS	
Q48:	E					NS	NS
Frequency of sex	C					NS	
with effective	E					NS	NS
birth control	C					NS	

[a] For Questions 43 and 44, mean scores represent the proportions that have had intercourse. For Questions 45 through 48, mean scores are the means of the actual frequencies.

[b] See footnote b in Table 6-15.

[c] See footnote c in Table 6-15.

Table 6-21

Student Assessments of the Impact of the Council Rock 12th Grade Course

Median[a]	Question
4.3	1. Do you know less or more about sexuality because of this course?
4.2	2. Do you now have less or more understanding of yourself and your behavior because of this course?
4.1	3. Are your attitudes and values about your own sexual behavior less or more clear because of this course?
4.6	4. Because of this course, do you now feel that using birth control when people are not ready to have children is less important or more important?
3.8	5. Do you talk about sexuality (e.g., going out, having sex, birth control, or male and female sex roles) with your friends less or more because of this course?
3.7	6. Do you talk about sexuality with your boy/girlfriend less or more because of this course?
3.4	7. Do you talk about sexuality with your parents less or more because of this course?
4.1	8. When you talk about sexuality with others (such as your friends, boy/girlfriend, and parents) are you less or more comfortable because of this course?
4.1	9. Do you now talk about sexuality less or more effectively (i.e. are you more able to talk about your thoughts, feelings, and needs and to listen carefully)?
3.0[b]	10. Are you less or more likely to have sex because of this course?
4.4	11. If you have sex, would you be less or more likely to use birth control because of this course?
4.3	12. If you have sex, would you be less comfortable or more comfortable using birth control because of this course?
3.9	13. Overall, do you now have less or more respect for yourself because of this course (i.e., do you have better feelings about yourself)?
3.7	14. Are you now less or more satisfied with your social behavior (e.g., going out and forming relationships) because of this course?
3.4	15. Because of this course, are you now less or more satisfied with your current sex life whatever it may be (it may be doing nothing, kissing, petting, or having sex)?
3.9	16. Do you now make worse or better decisions about your social life (e.g., going out and forming relationships) because of this course?
3.9	17. Do you now make worse or better decisions about your physical sexual behavior because of this course?
3.6	18. Do you now get along with your friends worse or better because of this course?

Footnotes to Table 6-21

[a] N=99

Key for Questions 1 to 15:	Key for Questions 16 to 18:
1=much less	1=much worse
2=somewhat less	2=somewhat worse
3=about the same	3=about the same
4=somewhat more	4=somewhat better
5=much more	5=much better

[b] For all questions, except #10, a median greater than 3.0 represents a positive change and a median less than 3.0 represents a negative change. For Question 10, the reverse is true.

Table 6-22

Parents' Assessment of the Impact upon Their Teenagers of the Council Rock 12th Grade Course

Median[a]	Question
4.1	1. Does your teenager know less or more about sexuality because of this course?
4.0	2. Are your teenager's attitudes and values about sexuality less or more clear because of this course?
3.5	3. Are you less or more comfortable talking about sexuality with your teenager because of this course?
3.6	4. Have you actually talked about sexuality with your teenager less or more because of this course?
3.6	5. Does your teenager talk and listen to you about sexuality less or more effectively because of this course?
4.1	6. Is your teenager less likely or more likely to make good decisions about social and sexual behavior (e.g. examine alternatives and consider consequences) because of this course?
3.6	7. Is your teenager less likely or more likely to have sex soon because of this course?

[a] N=71

Key for Questions:
1=much less
2=less
3=about the same
4=more
5=much more

CHAPTER 7

GEORGE MASON HIGH SCHOOL

Description of the Program

Background

Development of the Family Life and Sex Education Program began in 1970. The idea for the program originated in the community when members of the Parent-Teacher Association and the School Board inquired about the amount of sex education being taught in the Falls Church Public Schools. Their subsequent study revealed that Falls Church schools touched on sex education in various but disjointed ways. Biology classes broached the subject, but concentrated mainly on plant and animal reproduction. Psychology classes at the high school level examined some aspects of sex, love and family relationships. Various thematic English classes pursued topics such as the search for identity and the changing family.

Following the initial study, the general consensus was that a committee should be formed to carefully investigate approaches to Family Life and Sex Education used in school systems throughout the nation and to determine appropriate instruction for Falls Church students. In the fall of 1971, the School Board established the Family Life and Sex Education Community Council. Chaired by the high school vice-principal (who is not principal), this Council was composed of representatives of major religious denominations, parents, teachers, and medical authorities. The parent members were selected by the Parent-Teacher Association.

At its regular meetings, this Council examined instructional materials from a number of school districts, heard testimony from experts in the field, and set up displays of books and materials for public review. The Council recommended inclusion of a comprehensive sex education program at the ninth grade level. The School Board held several public sessions on the proposed curriculum and then adopted the ninth grade core program in the spring of 1972.

Once the curriculum was firmly established, several high school staff members took graduate courses offered by the American Association of Sex Educators and Counselors at Amherst College and American University. These courses trained the teachers in effective methods of sex education instruction and curriculum development. Subsequently, teachers have received additional instruction at various colleges and training centers throughout the nation.

The public response to the program was highly positive, and in 1974 the school hired a teacher with a background in science, health education, guidance, and counseling as a full-time Family Life and Sex Education instructor. She began teaching the core program, Life Science, which is an elective course taken for one year of general science credit. Since its inception, approximately 90% of ninth graders have taken the Life Science course.

In 1977 the school added two more elements to the sex education program. The Community Council and the School Board approved a Seminar in Human Sexuality for juniors and seniors in the high school and a Family Life and Health Education unit at the sixth grade level. The sixth grade units focus on issues related to puberty and social relationships. The quarter-long seminar on Human Sexuality offers students an opportunity to discuss openly issues related to sexual identity, sexual functioning, the history of sexual attitudes, and decisionmaking. This course may be taken as a general elective.

All aspects of the Family life and Sex Education program undergo continual evaluation by administrators, teachers, and community members. The Community Council continues in existence and meets at least annually and more often when curriculum changes or materials need to be approved.

Each year the ninth grade Life Science instructor invites all parents of high school freshmen to an evening of discussion and explanation about the course content. Additionally, the instructor offers two six-session seminars entitled "Perspectives on Adolescent Sexuality." These sessions, open to all parents, are taught in the fall and winter during the evening to accommodate parents' work schedules.

9th Grade Life Science

The sexuality components are well integrated into a general life science year long course. To better demonstrate how that integration is accomplished, the entire curriculum is outlined in considerable detail below.

First Quarter

Goals

- to improve communication skills
- to improve decisionmaking and problem solving skills
- to increase self esteem
- to increase knowledge about the basic structures and beginning of life

Curriculum Outline

- Communication skills -- ways people communicate
  - dress and appearance
  - body language
  - verbal language
  - "I" messages
  - active listening
  - paraphrasing

Problem solving
    defining the problem
    understanding the alternatives
    recognizing the feelings about the problem
    making a decision
    acting on the decision
    evaluating the decision

Personal self worth -- each person is unique and worthwhile
    self-perception
    personal strengths
    personal goals and plans

Basic structure and function of the human cell
    need for nutrients, oxygen, waste removal
    diversified functions
    formation and functioning of body systems

Basic structure and function of genes
    DNA model
    production of ovum and sperm
    conception
    ethical considerations in genetic research
    cell diversification to tissues and organs
    genetic defects
    problems caused by birth defects; obstacles encountered by handicapped people
    causes of twins

Inherited characteristics
    heredity versus environment debate
    family similarities
    commonalities within the species
    adoptive families -- issues in adoption
    uniqueness of each individual

Embryonic fetal development
    development during first, second, and third trimesters
    miscarriages
    effects of mother's nutrition
    physical changes in the mother
    considerations involved in breast feeding

Childbirth
    health care during pregnancy
    preparation for childbirth
    different methods of childbirth
    complications during childbirth

Second Quarter

Goals

- to understand the basic functions and interdependence of the digestive, respiration, and circulation systems
- to understand the impact of exercise, nutrition, and other habits upon these systems
- to better understand aging and its effects (including positive effects)
- to better understand death and its effects upon relationships

Curriculum Outline

- Digestive System
    - structure
    - function
    - health -- constructive and destructive eating habits
    - disease
    - sex role differences in incidents of disease

- Respiration
    - structure
    - function
    - health -- constructive and destructive habits, e.g., smoking
    - disease
    - self awareness of breathing and respiratory health

- Circulation
    - structure
    - function
    - health -- constructive and destructive behavior, e.g., exercise
    - disease -- effects of stress, causes of high blood pressure
    - sex role differences related to stress, tension, and disease

- Aging
    - changes in the body systems during aging
    - issues in dealing with aging
    - changes in family relationships -- marriage, living alone, independence and dependence
    - effects of senility on behavior and relationships
    - when and how death occurs
    - dealing with death

Third Quarter

Goals

- to increase acceptance of their own growth patterns
- to increase understanding of the impact of hormones upon their bodies, feelings, and behavior
- to better understand historical attitudes toward sexuality
- to better understand religious and family values about sexuality
- to better understand the impact of the media and peers
- to improve decisionmaking about sexual activities

Curriculum Outline

Endocrine system
- activation of the physical and sexual maturity process
- effects of hormones on the body
- menstruation, ovulation and sperm production
- historical attitudes toward menstruation
- development of secondary sex characteristics
- messages in advertising about the development of secondary sex characteristics
- pituitary functions
- structures and hormonal functions of testes and ovaries
- effects of lower levels of hormones on appearance, health, and self esteem
- effects of hormones on fetal development
- effects of hormones on sex differences
- effects of hormones on emotions and feelings
- physical changes when feeling in love

Reproductive system
- attitudes toward sexuality and reproduction
- our Judeo-Christian heritage
- today's culture -- advertising, peer groups, religious beliefs, political groups
- sexually aberrant behavior -- rape, sexual abuse
- decisionmaking about sexual activity
- methods of birth control -- abstinence, natural family planning, and mechanical and chemical methods
- abortion
- religious and ethical considerations involved in contraception and abortion
- reproductive health -- reproductive disease and malfunction, physical exams, self examinations
- decisionmaking about parenthood -- whom to marry, when to marry, when to have children
- compatibility of personal life goals, marriage, and parenthood
- problems of teenage parenthood
- sexually transmitted diseases -- causes, prevention, treatment

Fourth Quarter

Goals
- to help students integrate the unique aspects of being human and having reasoning ability
- to help students integrate changes in the brain, reasoning skills, and personality development
- to increase understanding of psychosexual development
- to increase understanding of the importance of each individual in his or her own relationships, own family and own community and the attendent responsibilities
- to improve decisionmaking about social and sexual matters

Curriculum

- Nervous system
  - structure of the brain and spinal cord
  - its response to the environment and control of the body
  - the uniqueness of the human brain
  - physical and psychological effects of brain dysfunction and injury
- Psychological Development
  - developments at each age -- infancy, toddler, early childhood, adolescence, young adulthood, middle age, old age
  - social and sexual activity and expression at different ages
  - causes of and religious perspectives on different sexual orientations
  - commitments to family, friends, and future family members
  - integration of love, caring, sex, personal identity, other relationships

Senior Seminar

Despite the title of the course, juniors as well as seniors take the course. The course is an elective designed to complement the 9th grade Life Science course. Obviously 17 year olds, many of whom are dating, have different needs than 14 year olds, most of whom are not dating. Moreover, during the end of their high school career, many students begin to consider their post-high school careers and relationships. The seminar provides these students with opportunity to learn additional information, ask questions, and express and hear alternative views. The course is designed to help students understand the history of sexual attitudes and current social and sexual mores.

The course covers the following topics:

- history of sexual attitudes -- Judeo-Christian, Puritan, Victorian, current
- the role of the family in primitive tribes, early civilizations, and current society
- research studies on sexuality
- the psycho-sexual development of people from infancy to old age
- decisions about life goals, marriage, and parenting
- cultural and religious views on gender roles, contraception, abortion

These topics are covered in a seminar format. That is, there are many class discussions. The teacher also presents relevant research, ideas, and historical perspectives at a more advanced level.

Parent/child Activities

A major goal of both the 9th grade course and the senior seminar is to increase parent/child communication. Consequently, the school prepared a booklet for the parents which includes much of the program summary presented above and suggested activities for the parents to do with their children. These suggested activities are linked with units in the classroom. Some of them are included here:

- Discuss the experience of your child's birth with your child.
- Recount positive experiences you or relatives and friends have had with adoptive children.
- Discuss your religious or ethical values about conception, contraception, abortion, and genetic research.
- Use the family photograph album to look at similarities or dissimilarities of appearance among family members.
- Talk about the experiences of handicapped persons you may know.
- Discuss medical experiences with diet, drugs, medicines, etc. during pregnancy.
- Discuss stressful, tension producing times in your life.
- Use television news stories about ERA or other sex equity issues to discuss your values.
- Discuss your religious beliefs and feelings about death.
- Share anything you can about family problems relating to health, aging, and death; speculate on your own aging and its effects on your relationships with your children; if any members of your family have suffered symptoms of aging, discuss the positive aspects of their lives.
- Discuss the effects of smoking, alcohol, and drug related behavior.
- Watch television programs which deal with any of the above issues and discuss them.

Teacher Characteristics

The teacher of the 9th grade course and senior seminar is Mary Lee Tatum. She has taught sexuality education for nine years. She has also been greatly involved in the development of sexuality education -- she has had many seminal ideas; she has helped develop many curricula; she has trained hundreds of other sexuality educators; and she has also served in various capacities in the leading professional organizations of sexuality educators.

In the classroom she has an unusually warm relationship with students. They clearly enjoy her and her class a great deal and frequently come to her for counseling.

Evaluation of the 9th Grade Class

Student and Parent Evaluation

As shown in Tables 7-1 through 7-3, the teacher received extremely high ratings. From both the students and their parents, she received median overall ratings of 4.9. Moreover, on all but one of the positive teacher characteristics she received ratings from the students of 4.4 or better, and many were 4.8. On negative items she received very low ratings, indicating she did not have those negative qualities.

According to Table 7-2 the classroom environment was a good one, although the ratings were not as high as the teacher's. Students felt they participated, were encouraged to ask questions, showed concerns for others, were permitted to have differing values and opinions, and kept thoughts expressed in class confidential. Moreover, they had only a small amount of difficulty talking about sexuality and expressing thoughts and feelings.

Both students and parents liked the structure and content of the program and they gave it overall ratings of 4.8 and 4.9 respectively (Table 7-3). These, of course, are very high.

Evaluation of the Effects of the 9th Grade Course

Summary of the Evaluation Methods

Questionnaires measuring knowledge, attitudes and values, and behavior were administered to the students in September at the beginning of the course (pretests) and in May at the end of the course (posttests). At the end of the course students and parents also rated the course and evaluated its effects upon the students.

Because nearly all the freshmen take the course at the same time, there was no feasible control group in the school. Consequently, we used two control groups from other sites, the University City High School control group composed primarily of juniors, but also containing some sophmores and seniors, and the the Council Rock control group composed entirely of seniors. Neither of these control groups is a very good control group, but each has its advantages and disadvantages. The University City control group is older than the experimental group, but still closer in age than the Council Rock control group. In turn, the racial and economic distribution of the Council Rock control group is closer to that of George Mason than that of University City High School. Because the control groups are not wholly adequate, any statistical differences should be examined more carefully.

The 9th grade sexuality class lasted two semesters, while the other courses taken by the control groups lasted only one semester. Thus, the change between the pretests and posttests in the experimental group are compared with the change between the pretests and second posttests in the control groups. These seconds posttests were administered at about the same time as the posttests in the experimental groups.

Impact upon Knowledge

According to Table 7-4 the course had a substantial impact upon knowledge. On the overall knowledge test the sexuality students learned statistically significantly more than either of the control groups. On the sub-tests measuring knowledge about the probability of becoming pregnant, birth control, and sexually transmitted diseases, the sexuality students also increased their knowledge more than either control group. The increase in knowledge about the probability of becoming pregnant was particularly impressive -- from 44 percent correct to 79 percent. In the areas of adolescent social and sexual activity and adolescent pregnancy the sexuality class learned significantly more than the University City High School control group.

These increases in knowledge are consistent with the assessments by both the students and their parents who claimed that the students knew much more because of the course (medians were 4.7 and 4.8 respectively, Tables 7-10 and 7-11).

These results are very encouraging, especially because some of the material may have been covered early in the year. However, it should also be realized that delayed effects beyond the end of the course were not measured, as they were in some of the other sites.

Impact upon Self Understanding

The course had a mixed impact upon self understanding (Table 7-5). The students had a substantial increase in clarity of values (from 3.4 to 3.7). This increase was significantly greater than the change in the University City control group, but not significantly greater than the Council Rock control group.

The sexuality students' clarity of long term goals did not change; thus they had significantly less change than the Council Rock control group. This is probably because the Council Rock control group contained seniors; they finalized their post graduation plans during the year; and thus they had a great jump in clarity of long term goals. It does not seem likely that the sexuality class retarded clarity of long term goals.

The sexuality students had an increase in clarity of sexual response, but again this change was significantly less than the increase in the Council Rock control group, but not significantly less than the University City control group. Again this is probably because the Council Rock control group was composed of seniors.

The teenagers felt that because of the course, they had a better understanding of themselves and their attitudes were more clear (medians equal 4.3 and 4.2, Table 7-10).

Impact upon Attitudes

According to Table 7-5, the sexuality course had little measureable impact upon attitudes. On most attitudes the students changed neither significantly more nor less than the control groups.

There were, however, two exceptions. On attitude toward premarital sex, the Council Rock control group became significantly more permissive, while the sexuality students remained the same. The University City control group also became more permissive, but this comparison was not statistically significant because of the small sample size. Second, the Council Rock control group also had a significantly greater change in recognition of the importance of the family. That control group slightly increased its recognition, while the sexuality class slightly decreased its recognition. The University City control group remained the same.

The sexuality students experienced a large increase in recognizing the importance of birth control (from 4.1 to 4.5). Although, this was not significantly greater than that in either control group, larger sample sizes would have made this change significant if the magnitudes of change had remained the same.

Students reported that they feel using birth control is much more important because of the course (median equals 4.7, Table 7-10).

Impact upon Self Esteem and Satisfaction with Sexuality and Social Relationships

According to Table 7-5 the course had no impact upon self esteem or satisfaction with either personal sexuality or social relationships; there were neither significant changes between groups nor significant changes over time.

In contrast, students claimed that they have more respect for themselves, are more satisfied with social lives, and are somewhat more satisfied with their sexuality because of the course.

Impact upon Skills

Table 7-6 indicates the course had no impact upon decisionmaking, communication, or assertiveness skills. There were very few significant changes.

There was a minor exception. The University City control group had a major increase in birth control assertiveness skills, while the sexuality class had a decrease. This is puzzling, and is probably due to the small sample sizes (only 26 and 13).

In contrast students claim they communicate better and make better decisions (Table 7-10). Parents strongly support this (medians = 4.3 and 4.6, Table 7-11).

Impact upon Comfort with Different Activities

Table 7-7 indicates the course had little impact upon comfort with different social activities. All but one of the comparisons between the experimental and control groups were insignificant.

The one exception was the significant increase in comfort with social activities at Council Rock. This difference was undoubtedly caused by the fact that the Council Rock control group was composed of seniors and seniors typically increase their social activity and their comfort with that activity. In contrast the freshmen at George Mason were more likely to be feeling their way socially and to feel less secure.

Impact upon Frequency of Communication

Table 7-8 shows clearly that there was no change in the frequency of communication among any of the groups.

This is supported by the students, who claim that they talk to their parents about the same because of the course. The parents, on the other hand, claim that they talk more with their teenagers because of the course.

Impact upon Sexual Behavior

The data indicate that the course may have had a slightly conservative impact upon the students. During the nine months between the pretests and posttests only three percent of the students had sex for the first time. This is less than the national averages for that age group and would have been statistically significantly less than the control groups if the sample sizes had been larger and the magnitudes had remained the same.

Moreover, there was a significant difference between the sexuality students and the Council Rock control group in the percent of students who had sex the previous month; the percentage for the sexuality class declined slightly, while it increased for the Council Rock seniors. Once again, this may have been caused by the substantial increase in students' social activity during their senior year. In general, the percentage of students who have sex increases as they get older. The fact that the percentage declined among the sexuality students certainly indicates that the course did not increase sexual activity and may have decreased it.

None of the data on birth control was significant. This is partially because the sample sizes of sexually active students were too small.

The students thought they would be slightly more likely to have sex because of the course, but would be much more likely to use birth control if they did so.

Summary

The data support three findings:

- Both students and their parents believe the course is an excellent one. They give it extremely high ratings.
- The pretest/posttest data indicate that the course significantly increased knowledge, may have helped clarify values, may have kept attitudes toward premarital sex from becoming more permissive, had little impact upon skills, comfort with different social activities, or communication, and may have slightly prevented increases in sexual activity.
- Students claim that because of the course, they know much more about sexuality, feel birth control is much more important, and would be much more likely to use birth control if they have sex. They also

feel that because of the course, they have clearer values, better self understanding, discuss sex more comfortably, and make better decisions about social and sexual activity.

Evaluation of the 12th Grade Class

Student and Parent Evaluation

Students and their parents also gave the 12th grade teacher and course extremely high ratings (Tables 7-12 to 7-14). Most of the students′ ratings of the teacher were 4.7 or higher; while their overall rating for the teacher was 4.9. Similarly the parents gave the teacher an extremely high rating (5.0), but this is less meaningful because only seven parents completed the questionnaire.

Students rated the classroom environment very positively, although there was room for improvement in the amount of concern that students showed to one another.

Both students and parents also gave high ratings to the topics, materials, and organization of the course. Overall, they rated it 4.9 (Table 7-14).

Evaluation of the Effects of the 12th Grade Course

Summary of the Evaluation Methods

The students completed questionnaires measuring knowledge, attitudes, and behavior at the beginning of the course (pretests) and at the end of the course (posttests). At the end of the course, the students and their parents also completed a course evaluation.

Because of a limited number of students, we did not get a control group in the same high school. However, the control group of seniors from Council Rock High School is an excellent control group because it has a very similar distribution of people -- mostly white and middle or upper-middle class.

Impact upon Knowledge

According to Table 7-15 the course had a small impact upon knowledge. On the total knowledge test, the sexuality seminar significantly increased its knowledge, but the control group also increased its knowledge to a lesser extent, and the difference between the two groups was not significant. In two areas, adolescent marriage and probability of becoming pregnant, the sexuality seminar did increase its scores significantly more than the control group.

When asked how they felt the course affected their knowledge, students reported that had more knowledge because of the course (median = 4.3, Table 7-21).

Impact upon Self Understanding

Table 7-16 indicates that the course had no impact upon self understanding. On none of the measures of self understanding did the sexuality class have a statistically significantly greater increase than the control group. In fact, the sexuality students did not demonstrate a statistically significant change between the pretests and the posttests on any of the measures.

In contrast, in their course assessments the sexuality students claimed that they did have a greater understanding of themselves because of the course and that their attitudes were more clear (medians = 4.2 and 4.1 respectively, Table 7-21).

Impact upon Attitudes

Table 7-16 also indicates that the course had no impact upon any of the attitudes measured. Once again, there were no significant changes between the pretests and posttests and the changes in the sexuality class were not significantly greater than the changes in the control group.

In contrast, students claimed in their course assessments (Table 7-21) that they felt using birth control was much more important because of the course (median = 4.6). In fact, the students indicated that the course had a greater impact upon their attitude about the importance of birth control than upon any other measured outcome.

This conflict between the pretest/posttest data and the course assessment data may be partially answered by the fact that on both the pretests and posttests the students had very high median scores (4.8 and 4.7) and it is very difficult to obtain still higher scores. That is, a ceiling effect may have reduced the validity of this pretest/posttest data.

Impact upon Self Esteem and Satisfaction with Sexuality and Social Relationships

Table 7-16 indicates that the course had no impact upon self esteem, satisfaction with social relationships, or satisfaction with personal sexuality. There were no significant differences between the pretests and posttests and no significant differences between the changes in the sexuality students and the control groups.

The students' course assessments (Table 7-21) suggest that they have somewhat more self respect and satisfaction with their social and sexual lives. However, these medians are typically smaller than the other medians, indicating that the students themselves felt the course had less impact in these areas than in other areas.

Impact upon Skills

Table 7-17 suggests that the course had no impact upon any of the decisionmaking or communication skills. Once again there were no statistically significant changes between the pretests and posttests and no changes between the experimental and control groups.

The students indicated that because of the course they make better decisions and communicate more effectively (Table 7-21). The seven parents that returned the questionnaires strongly supported this assertion; they felt their teenagers communicated much more effectively with them and were much more likely to make good decisions because of the course (medians = 4.9 and 4.9, Table 7-22).

Impact upon Comfort with Different Social and Sexual Activities

Table 7-18 suggests that the sexuality course did not have any impact upon comfort in a variety of social and sexual situations. For neither the sexuality class nor the control group were there any significant pretest/posttest differences.

In their course assessments students claim that because of the course they are more comfortable talking about sexuality and would be considerably more comfortable using birth control if they have sex (medians = 4.1 and 4.3, Table 7-21).

Impact upon Frequency of Communication

The data in Table 7-19 suggest that the senior seminar did not have any impact upon the frequency of conversations about sexuality or birth control with parents, boyfriends or girlfriends, or other friends. There were no significant differences between the experimental and control groups, nor were there any significant differences between the pretests and posttests of the experimental group.

In their course assessments students claimed that they talked a little more with these groups of people (Table 7-21). Their parents also claimed that they talked more (Table 7-22), but of course that sample size is very small.

Impact upon Sexual Behavior

The data in Table 7-20 suggest that the course did not have any impact upon whether the students ever had sex or had sex the previous month, nor did it have an impact upon the frequency of sex the previous month. However, it did apparently reduce the frequency of sex without any birth control and the frequency of sex with poor methods of birth control. The students in the sexuality seminar reduced the frequency of sex with either no birth control or poor control, while the control group increased such sexual activity.

These data are consistent with students' class assessments in which they claimed that they were more likely to use birth control if they had sex. The median rating was 4.4, the second highest of all the ratings. Moreover, the highest rating was 4.6 indicating the students believed birth control was much more important.

Finally, the few parents who completed the parent evaluation also supported this, although less directly. They claimed their teenagers were much more likely to make good decisions about social and sexual behavior because of the course (median = 4.9, Table 7-22).

Discussion and Summary of Results

The data support several conclusions:

- Both students and their parents rated the course very highly. Nearly all the ratings were extremely high and there were no poor ratings.

- The pretest/posttest data indicate that the course increased knowledge about adolescent marriage and the probability of becoming pregnant, but did not increase knowledge about other areas.

- The pretest/posttest data strongly suggest the course had no impact upon attitudes, self esteem, satisfaction with personal social and sexual relationships, decisionmaking and communication skills, comfort with most social activities, frequency of communication about sexuality, or the existence and amount of sexual activity.

- Both the pretest/posttest data and the class evaluations indicate that the course did reduce the amount of sexual activity with either no birth control or poor birth control. The frequency of sexual activity with no birth control dropped from .5 to .1; the frequency of sexual activity with poor birth control dropped from .4 to .2.

- The course evaluations indicated that the course's greatest impact was upon birth control. Because of the course, students felt birth control was much more important; they were more comfortable with the idea of using it; and they were more likely to use it. Students also felt the course increased their knowledge, helped them better understand themselves and clarify their values, and improved their decisionmaking and communication.

The results of this seminar clearly differ from those of other programs. Whereas other programs sometimes had effects upon knowledge, attitudes, and skills, but not upon behavior, this program apparently had little impact upon knowledge, attitudes, and skills, but did have an impact upon the use of birth control. However, the actual magnitude of the differences may contain some random error simply because of the moderate size of the samples. That is, concluding that the course reduced the frequency of sex without birth control by a factor of 5 would not be prudent.

Table 7-1

Student Evaluations of the George Mason 9th Grade Teacher[a]

Positive Questions

Median	Question
4.8	1. How enthusiastic was the teacher about teaching this course?
4.8	4. How much did the teacher talk at a level that the students could understand?
4.8	5. How much did the teacher care about the students?
4.7	6. How much respect did the teacher show to the students?
4.4	7. How much did the students trust the teacher?
4.6	8. How well did the teacher get along with the students?
4.7	9. How much did the teacher encourage the students to talk about their feelings and opinions?
4.7	11. How carefully did the teacher listen to the students?
4.6	12. How much did the teacher discourage hurting others in sexual situations (e.g., knowingly spreading VD or forcing someone to have sex)?
4.8	13. How much did the teacher encourage thinking about the consequences before having sexual relations?
4.8	14. How much did the teacher encourage students to think about their own values about sexuality?
4.8	15. How much did the teacher encourage the use of birth control to avoid unwanted pregnancy?
3.8	16. How much did the teacher encourage students to talk with their parents about sexuality?

Negative Questions

Median	Question
1.1	2. How uncomfortable was the teacher in discussing different things about sex?
1.8	3. How much did the teacher discuss topics in a way that made students feel uncomfortable?
2.8	10. To what extent did the teacher talk too much about what's right and wrong?

[a] N=71

Key: 1=not at all
2=a small amount
3=a medium amount
4=a large amount
5=a great deal

Table 7-2

Student Evaluations of the George Mason 9th Grade Classroom Environments[a]

Positive Questions

Median	Question
4.0	18. How much did students participate in class discussions?
4.1	19. How much were you encouraged to ask any questions you had about sex?
3.9	22. How much did you show concern for the other students in the class?
3.3	23. How much did the other students show concern for you?
4.3	24. How much were the students' opinions given in the class kept confidential (i.e., not spread outside the classroom)?
4.4	25. How much were you permitted to have values or opinions different from others in the class?

Negative Questions

Median	Question
1.7	17. How bored were you by the course?
2.2	20. How much difficulty did you have talking about your own thoughts and feelings?
2.1	21. How much difficulty did you have asking questions and talking about sexual topics?

[a] N=71

Key: 1=not at all
2=a small amount
3=a medium amount
4=a large amount
5=a great deal

Table 7-3

Student and Parent Summary Evaluations of the George Mason 9th Grade Course[a]

Median Scores

Student	Parent	Question
4.9	4.9	What is your evaluation of the teacher?
4.7	4.9	What is your evaluation of the topics covered in the course?
4.5	4.6	What is your evaluation of the materials used, such as books and films?
4.6	4.7	What is your evaluation of the organization and format of the program (e.g., length, location, and time)?
4.8	4.9	What is your evaluation of the overall program?

[a] N=40 for students
N=71 for parents

Key: 1=very poor
2=poor
3=average
4=good
5=excellent

Table 7-4

Effects of the George Mason 9th Grade Courses upon Knowledge: Mean Percent Correct on Pretests and Posttests; and Significance Levels for Differences between Pretests and Posttests and between Experimental and Control Group Changes

			Means[a]		Significance[b]	
Outcome	Group[c]	N	Pre	Post	Pre vs Post	Change in E-Group[d] vs Change in C-Group
Total Knowledge	E	107	61.2	74.3	.000	
	C1	32	79.7	86.2	.000	.005
	C2	41	51.7	56.5	NS	.032
Physical Development and Reproduction	E				NS	
	C1				NS	NS
	C2				NS	NS
Adolescent Relationships	E	107	79.4	79.1	NS	
	C1	32	92.7	99.0	NS	NS
	C2	41	71.4	80.5	.040	NS
Adolescent Social and Sexual Activity	E	107	51.7	71.7	.000	
	C1	32	78.9	84.4	NS	NS
	C2	41	48.8	48.8	NS	.016
Adolescent Pregnancy	E	107	50.0	64.3	.000	
	C1	32	63.3	80.5	.001	NS
	C2	41	49.4	50.6	NS	.011
Adolescent Marriage	E	107	47.2	56.1	.039	
	C1	32	75.0	84.4	NS	NS
	C2	41	34.1	42.7	NS	NS
Probability of Becoming Pregnant	E	107	43.9	79.4	.000	
	C1	32	42.7	57.3	.017	.004
	C2	41	27.2	30.1	NS	.000
Birth Control	E	107	58.3	75.0	.000	
	C1	32	88.8	92.9	.048	.000
	C2	41	39.2	48.4	.007	.048
Sexually Transmitted Diseases	E	107	58.5	74.4	.000	
	C1	32	81.3	86.3	NS	.016
	C2	41	58.4	63.9	NS	.014

Footnotes for Table 7-4

[a] Each mean score is the mean percent of correct answers.

Both the experimental and control groups completed the pretest at the beginning of the fall semester and the posttest at the end of the spring semester. For the control groups, the posttest used is actually their second posttest.

[b] All tests of significance are matched-pairs two-tailed t-tests. Smaller numbers represent smaller probabilities of results having occurred by chance. Thus, .000 is the probability rounded to three digits and represents the highest level of significance. If the probability of results having occurred by chance was greater than .050, then the data were not considered significant and were not included in the table. Thus, NS means not significant at the .05 level.

[c] C1 is the 12th grade control group from Council Rock High School. C2 is the control group from University City High School.

[d] This column is the significance of the difference between the change in the experimental group and the change in the control group. The change in each group is the posttest minus the pretest.

Table 7-5

Effects of the George Mason 9th Grade Courses upon Self Understanding, Attitudes, Self esteem, and Satisfaction with Sexuality and Social Relationships:

Mean Scores on Pretests and Posttests;
and Significance Levels for Differences between Pretests and Posttests
and between Experimental and Control Group Changes

			Means[a]		Significance[b]	
Outcome	Group[c]	N	Pre	Post	Pre vs Post	Change in E-Group[d] vs Change in C-Group
Clarity of Long Term Goals	E	88	3.5	3.5	NS	
	C1	37	3.3	3.7	.006	.017
	C2	16	4.2	4.5	NS	NS
Clarity of Personal Sexual Values	E	87	3.4	3.7	.000	
	C1	37	3.5	3.8	.025	NS
	C2	16	4.0	3.9	NS	.026
Understanding of Emotional Needs	E	87	3.4	3.6	.011	
	C1	36	3.4	3.6	.049	NS
	C2	15	4.0	4.2	NS	NS
Understanding of Personal Social Behavior	E				NS	
	C1				NS	NS
	C2				NS	NS
Understanding of Personal Sexual Response	E	87	3.4	3.6	.028	
	C1	36	3.3	3.7	.000	.050
	C2	15	3.5	3.9	NS	NS
Attitude toward Gender Role Behaviors	E				NS	
	C1				NS	NS
	C2				NS	NS
Attitude toward Sexuality in Life	E	89	3.7	3.8	NS	
	C1	36	3.6	3.8	NS	NS
	C2	15	3.5	3.8	.037	NS
Attitude toward the Importance of Birth Control	E	87	4.1	4.5	.000	
	C1	35	4.4	4.6	.042	NS
	C2	16	4.4	4.5	NS	NS
Attitude toward Premarital Intercourse	E	89	2.4	2.4	NS	
	C1	37	2.8	2.4	.021	.040
	C2	16	2.6	2.3	NS	NS

Table 7-5 (Continued)

			Means[a]		Significance[b]	
Outcome	Group[c]	N	Pre	Post	Pre vs Post	Change in E-Group[d] vs Change in C-Group
Attitude toward Use of Pressure and Force in Sex	E				NS	
	C1				NS	NS
	C2				NS	NS
Recognition of the Importance of the Family	E	87	4.4	4.3	NS	
	C1	36	4.6	4.7	NS	.023
	C2	15	4.5	4.5	NS	NS
Self-esteem	E				NS	
	C1				NS	NS
	C2				NS	NS
Satisfaction with Personal Sexuality	E	89	3.5	3.5	NS	
	C1	35	3.3	3.6	.034	NS
	C2	16	3.9	4.1	NS	NS
Satisfaction with Social Relationships	E	88	3.6	3.6	NS	
	C1	37	3.8	3.9	NS	NS
	C2	16	3.7	4.1	.034	NS

[a] All mean scores are based upon five 1-5 Likert type scales. They were scored so that the possible range is 1 to 5 with increases representing improvement. See the second paragraph of footnote a in Table 7-4.

[b] See footnote b in Table 7-4.

[c] See footnote c in Table 7-4.

[d] See footnote d in Table 7-4.

Table 7-6

Effects of George Mason 9th Grade Courses upon Skills:
Mean Scores on Pretests and Posttests;
and Significance Levels for Differences between Pretests and Posttests
and between Experimental and Control Group Changes

Outcome	Group[c]	N	Means[a]		Significance[b]	
			Pre	Post	Pre vs Post	Change in E-Group[d] vs Change in C-Group
Social Decisionmaking Skills	E	93	3.5	3.7	.022	
	C1	33	3.8	4.1	.003	NS
	C2	29	3.5	3.5	NS	NS
Sexual Decisionmaking Skills	E				NS	
	C1				NS	NS
	C2				NS	NS
Communication Skills	E	80	3.5	3.5	NS	
	C1	32	3.8	4.1	.031	NS
	C2	24	3.6	3.9	NS	NS
Assertiveness Skills	E	39	2.9	3.2	.050	
	C1	23	3.8	4.0	NS	NS
	C2	21	3.9	3.9	NS	NS
Birth Control Assertiveness Skills	E	26	3.9	3.3	NS	
	C1	46	4.2	4.4	NS	NS
	C2	13	3.2	3.9	.028	.003

[a] Mean scores are based upon multi-item indices which are scored so that the final scale has a possible range of 1 to 5 and increases represent improvements. See the second paragraph of footnote a in Table 7-4.

[b] See footnote b in Table 7-4.

[c] See footnote c in Table 7-4.

[d] See footnote d in Table 7-4.

Table 7-7

Effects of George Mason 9th Grade Courses upon Comfort with Different Activities:
Mean Scores on Pretests and Posttests;
and Significance Levels for Differences between Pretests and Posttests
and between Experimental and Control Group Changes

			Means[a]		Significance[b]	
Outcome	Group[c]	N	Pre	Post	Pre vs Post	Change in E-Group[d] vs Change in C-Group
Comfort Engaging in Social Activities	E	79	3.4	3.3	NS	
	C1	31	3.4	3.6	.020	.003
	C2	26	3.4	3.4	NS	NS
Comfort Talking about Sex	E	64	2.5	2.8	.004	
	C1	24	2.5	3.0	.003	NS
	C2	23	2.6	2.9	NS	NS
Comfort Talking about Birth Control	E	47	2.5	2.7	.027	
	C1	19	2.7	3.1	.003	NS
	C2	17	2.6	2.6	NS	NS
Comfort Talking with Parents about Sexuality	E	63	2.1	2.3	NS	
	C1	26	2.0	2.4	.033	NS
	C2	21	2.1	2.4	NS	NS
Comfort Expressing Concern and Caring	E	97	3.4	3.4	NS	
	C1	33	3.3	3.6	.037	NS
	C2	30	3.2	3.4	NS	NS
Comfort Being Sexually Assertive (Saying "No")	E	64	2.4	2.7	.043	
	C1	24	2.4	2.9	.010	NS
	C2	24	2.9	3.0	NS	NS
Comfort Having Current Sex Life	E				NS	
	C1				NS	NS
	C2				NS	NS
Comfort Getting and Using Birth Control	E				NS	
	C1				NS	NS
	C2				NS	NS

Table 7-8

Effects of George Mason 9th Grade Courses upon Frequency of Conversations about Sexuality:

Mean Scores on Pretests and Posttests;
and Significance Levels for Differences between Pretests and Posttests
and between Experimental and Control Group Changes

			Means[a]		Significance[b]	
Outcome	Group[c]	N	Pre	Post	Pre vs Post	Change in E-Group[d] vs Change in C-Group
Q49: Frequency of conversations about sex with parents	E				NS	
	C1				NS	NS
	C2				NS	NS
Q50: Frequency of conversations about sex with friends	E				NS	
	C1				NS	NS
	C2				NS	NS
Q51: Frequency of conversations about sex with boy/girlfriend	E				NS	
	C1				NS	NS
	C2				NS	NS
Q52: Frequency of conversations about birth control with parents	E				NS	
	C1				NS	NS
	C2				NS	NS
Q53: Frequency of conversations about birth control with friends	E				NS	
	C1				NS	NS
	C2				NS	NS
Q54: Frequency of conversations about birth control with boy/girlfriend	E				NS	
	C1				NS	NS
	C2				NS	NS

[a] All mean scores are the means of the frequencies for the last month. See the second paragraph of footnote a in Table 7-4.

[b] See footnote b in Table 7-4.

[c] See footnote c in Table 7-4.

[d] See footnote d in Table 7-4.

Table 7-9

Effects of George Mason 9th Grade Courses upon Sexual Intercourse and Use of Birth Control:

Mean Scores on Pretests and Posttests;
and Significance Levels for Differences between Pretests and Posttests
and between Experimental and Control Group Changes

			Means[a]		Significance[b]	
Outcome	Group[c]	N	Pre	Post	Pre vs Post	Change in E-Group[d] vs Change in C-Group
Q43: Ever had sex	E	101	.21	.24	NS	
	C1	34	.24	.32	NS	NS
	C2	31	.45	.61	.023	NS
Q44: Had sex last month	E	100	.10	.09	NS	
	C1	34	.09	.26	.032	.034
	C2	29	.21	.24	NS	NS
Q45: Frequency of sex last month	E				NS	
	C1				NS	NS
	C2				NS	NS
Q46: Frequency of sex without birth control	E				NS	
	C1				NS	NS
	C2				NS	NS
Q47: Frequency of sex with poor birth control	E				NS	
	C1				NS	NS
	C2				NS	NS
Q48: Frequency of sex with effective birth control	E				NS	
	C1				NS	NS
	C2				NS	NS

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[a] For Questions 43 and 44, mean scores represent the proportions that have had intercourse. For Questions 45 through 48, mean scores are the means of the actual frequencies. See the second paragraph of footnote a in Table 7-4.

[b] See footnote b in Table 7-4.

[c] See footnote c in Table 7-4.

[d] See footnote d in Table 7-4.

Table 7-10

Student Assessments of the Impact of the George Mason 9th Grade Courses

Median[a]	Question
4.7	1. Do you know less or more about sexuality because of this course?
4.3	2. Do you now have less or more understanding of yourself and your behavior because of this course?
4.2	3. Are your attitudes and values about your own sexual behavior less or more clear because of this course?
4.7	4. Because of this course, do you now feel that using birth control when people are not ready to have children is less important or more important?
3.6	5. Do you talk about sexuality (e.g., going out, having sex, birth control, or male and female sex roles) with your friends less or more because of this course?
3.3	6. Do you talk about sexuality with your boy/girlfriend less or more because of this course?
3.2	7. Do you talk about sexuality with your parents less or more because of this course?
4.0	8. When you talk about sexuality with others (such as your friends, boy/girlfriend, and parents) are you less or more comfortable because of this course?
4.1	9. Do you now talk about sexuality less or more effectively (i.e. are you more able to talk about your thoughts, feelings, and needs and to listen carefully)?
3.4[b]	10. Are you less or more likely to have sex because of this course?
4.5	11. If you have sex, would you be less or more likely to use birth control because of this course?
4.3	12. If you have sex, would you be less comfortable or more comfortable using birth control because of this course?
4.0	13. Overall, do you now have less or more respect for yourself because of this course (i.e., do you have better feelings about yourself)?
3.7	14. Are you now less or more satisfied with your social behavior (e.g., going out and forming relationships) because of this course?
3.5	15. Because of this course, are you now less or more satisfied with your current sex life whatever it may be (it may be doing nothing, kissing, petting, or having sex)?
4.0	16. Do you now make worse or better decisions about your social life (e.g., going out and forming relationships) because of this course?
3.9	17. Do you now make worse or better decisions about your physical sexual behavior because of this course?
3.5	18. Do you now get along with your friends worse or better because of this course?

Footnotes to Table 7-10

[a] N=70

Key for Questions 1 to 15:	Key for Questions 16 to 18:
1=much less	1=much worse
2=somewhat less	2=somewhat worse
3=about the same	3=about the same
4=somewhat more	4=somewhat better
5=much more	5=much better

[b] For all questions, except #10, a median greater than 3.0 represents a positive change and a median less than 3.0 represents a negative change. For Question 10, the reverse is true.

Table 7-11

Parents' Assessment of the Impact upon Their Teenagers of the George Mason 9th Grade Course

Median[a]	Question
4.8	1. Does your teenager know less or more about sexuality because of this course?
4.6	2. Are you less or more comfortable talking about sexuality with your teenager because of this course?
4.3	3. Have you actually talked about sexuality with your teenager less or more because of this course?
4.3	4. Does your teenager talk and listen to you about sexuality less or more effectively because of this course?
4.6	5. Is your teenager less likely or more likely to make good decisions about social and sexual behavior (e.g. examine alternatives and consider consequences) because of this course?

[a] N=40

Key for Questions:
1=much less
2=less
3=about the same
4=more
5=much more

Table 7-12

Student Evaluations of the George Mason 12th Grade Teacher[a]

Positive Questions

Median	Question
4.9	1. How enthusiastic was the teacher about teaching this course?
4.8	4. How much did the teacher talk at a level that the students could understand?
4.8	5. How much did the teacher care about the students?
4.8	6. How much respect did the teacher show to the students?
4.6	7. How much did the students trust the teacher?
4.7	8. How well did the teacher get along with the students?
4.7	9. How much did the teacher encourage the students to talk about their feelings and opinions?
4.9	11. How carefully did the teacher listen to the students?
4.1	12. How much did the teacher discourage hurting others in sexual situations (e.g., knowingly spreading VD or forcing someone to have sex)?
4.8	13. How much did the teacher encourage thinking about the consequences before having sexual relations?
4.7	14. How much did the teacher encourage students to think about their own values about sexuality?
4.7	15. How much did the teacher encourage the use of birth control to avoid unwanted pregnancy?
3.8	16. How much did the teacher encourage students to talk with their parents about sexuality?

Negative Questions

Median	Question
1.3	2. How uncomfortable was the teacher in discussing different things about sex?
1.8	3. How much did the teacher discuss topics in a way that made students feel uncomfortable?
1.6	10. To what extent did the teacher talk too much about what's right and wrong?

[a] N=73

Key: 1=not at all
2=a small amount
3=a medium amount
4=a large amount
5=a great deal

Table 7-13

Student Evaluations of the George Mason 12th Grade Classroom Environments[a]

Positive Questions

Median	Question
4.4	18. How much did students participate in class discussions?
4.8	19. How much were you encouraged to ask any questions you had about sex?
3.9	22. How much did you show concern for the other students in the class?
3.6	23. How much did the other students show concern for you?
3.9	24. How much were the students′ opinions given in the class kept confidential (i.e., not spread outside the classroom)?
4.8	25. How much were you permitted to have values or opinions different from others in the class?

Negative Questions

Median	Question
1.3	17. How bored were you by the course?
2.3	20. How much difficulty did you have talking about your own thoughts and feelings?
2.1	21. How much difficulty did you have asking questions and talking about sexual topics?

[a] N=73

Key: 1=not at all
2=a small amount
3=a medium amount
4=a large amount
5=a great deal

Table 7-14

Student and Parent Summary Evaluations of the George Mason 12th Grade Course[a]

Median Scores

Student	Parent	Question
4.9	5.0	What is your evaluation of the teacher?
4.8	4.9	What is your evaluation of the topics covered in the course?
4.3	4.5	What is your evaluation of the materials used, such as books and films?
4.6	4.7	What is your evaluation of the organization and format of the program (e.g., length, location, and time)?
4.9	4.9	What is your evaluation of the overall program?

[a] N=73 for students
N=7 for parents

Key: 1=very poor
2=poor
3=average
4=good
5=excellent

Table 7-15

Effects of the George Mason 12th Grade Courses upon Knowledge: Mean Percent Correct on Pretests and Posttests; and Significance Levels for Differences between Pretests and Posttests and between Experimental and Control Group Changes

			Means[a]		Significance[b]	
Outcome	Group[c]	N	Pre	Post	Pre vs Post	Change in E-Group[d] vs Change in C-Group
Total Knowledge	E	49	76.0	82.2	.008	NS
	C	76	80.2	81.6	NS	
Physical Development and Reproduction	E				NS	NS
	C				NS	
Adolescent Relationships	E				NS	NS
	C				NS	
Adolescent Social and Sexual Activity	E				NS	NS
	C				NS	
Adolescent Pregnancy	E	49	68.4	72.5	NS	NS
	C	76	61.1	70.1	.004	
Adolescent Marriage	E	49	71.4	89.0	.010	.028
	C	76	78.9	78.9	NS	
Probability of Becoming Pregnant	E	49	29.9	52.0	.000	.002
	C	76	43.4	47.4	NS	
Birth Control	E	49	76.4	81.7	.031	NS
	C	76	89.5	90.0	NS	
Sexually Transmitted Diseases	E				NS	NS
	C				NS	

Footnotes to Table 7-15

[a] Each mean score is the mean percent of correct answers.

Both the experimental and control groups completed the pretest at the beginning of the fall semester and the posttest at the end of the spring semester. For the control groups, the posttest used is actually their second posttest.

[b] All tests of significance are matched-pairs two-tailed t-tests. Smaller numbers represent smaller probabilities of results having occurred by chance. Thus, .000 is the probability rounded to three digits and represents the highest level of significance. If the probability of results having occurred by chance was greater than .050, then the data were not considered significant and were not included in the table. Thus, NS means not significant at the .05 level.

[c] E is the experimental group. C is the 12th grade control group from Council Rock High School.

[d] This column is the significance of the difference between the change in the experimental group and the change in the control group. The change in each group is the posttest minus the pretest.

Table 7-16

Effects of the George Mason 12th Grade Courses upon Self Understanding, Attitudes, Self esteem, and Satisfaction with Sexuality and Social Relationships:

Mean Scores on Pretests and Posttests;
and Significance Levels for Differences between Pretests and Posttests
and between Experimental and Control Group Changes

			Means[a]		Significance[b]	
Outcome	Group[c]	N	Pre	Post	Pre vs Post	Change in E-Group[d] vs Change in C-Group
Clarity of Long Term Goals	E	44	3.4	3.5	NS	NS
	C	69	3.2	3.5	.005	
Clarity of Personal Sexual Values	E				NS	NS
	C				NS	
Understanding of Emotional Needs	E				NS	NS
	C				NS	
Understanding of Personal Social Behavior	E				NS	NS
	C				NS	
Understanding of Personal Sexual Response	E				NS	NS
	C				NS	
Attitude toward Gender Role Behaviors	E				NS	NS
	C				NS	
Attitude toward Sexuality in Life	E				NS	NS
	C				NS	
Attitude toward the Importance of Birth Control	E	44	4.8	4.7	NS	NS
	C	69	4.4	4.6	.007	
Attitude toward Premarital Intercourse	E				NS	NS
	C				NS	

Table 7-16 (Continued)

Outcome	Group[c]	N	Means[a]		Significance[b]	
			Pre	Post	Pre vs Post	Change in E-Group[d] vs Change in C-Group
Attitude toward Use of Pressure and Force in Sex	E				NS	NS
	C				NS	
Recognition of the Importance of the Family	E				NS	NS
	C				NS	
Self-esteem	E				NS	NS
	C				NS	
Satisfaction with Personal Sexuality	E				NS	NS
	C				NS	
Satisfaction with Social Relationships	E				NS	NS
	C				NS	

[a] All mean scores are based upon five 1-5 Likert type scales. They were scored so that the possible range is 1 to 5 with increases representing improvement. See the second paragraph of footnote a in Table 7-15.

[b] See footnote b in Table 7-15.

[c] See footnote c in Table 7-15.

[d] See footnote d in Table 7-15.

Table 7-17

Effects of George Mason 12th Grade Courses upon Skills:
Mean Scores on Pretests and Posttests;
and Significance Levels for Differences between Pretests and Posttests
and between Experimental and Control Group Changes

			Means[a]		Significance[b]	
Outcome	Group[c]	N	Pre	Post	Pre vs Post	Change in E-Group[d] vs Change in C-Group
Social Decisionmaking Skills	E				NS	NS
	C				NS	
Sexual Decisionmaking Skills	E				NS	NS
	C				NS	
Communication Skills	E				NS	NS
	C				NS	
Assertiveness Skills	E				NS	NS
	C				NS	
Birth Control Assertiveness Skills	E				NS	NS
	C				NS	

[a] Mean scores are based upon multi-item indices which are scored so that the final scale has a possible range of 1 to 5 and increases represent improvements. See the second paragraph of footnote a in Table 7-15.

[b] See footnote b in Table 7-15.

[c] See footnote c in Table 7-15.

[d] See footnote d in Table 7-15.

Table 7-18

Effects of George Mason 12th Grade Courses upon Comfort with Different Activities:
Mean Scores on Pretests and Posttests;
and Significance Levels for Differences between Pretests and Posttests
and between Experimental and Control Group Changes

			Means[a]		Significance[b]	
Outcome	Group[c]	N	Pre	Post	Pre vs Post	Change in E-Group[d] vs Change in C-Group
Comfort Engaging in Social Activities	E				NS	NS
	C				NS	
Comfort Talking about Sex	E				NS	NS
	C				NS	
Comfort Talking about Birth Control	E				NS	NS
	C				NS	
Comfort Talking with Parents about Sexuality	E				NS	NS
	C				NS	
Comfort Expressing Concern and Caring	E				NS	NS
	C				NS	
Comfort Being Sexually Assertive (Saying "No")	E				NS	NS
	C				NS	
Comfort Having Current Sex Life	E				NS	NS
	C				NS	
Comfort Getting and Using Birth Control	E				NS	NS
	C				NS	

Footnotes to Table 7-18

[a] The mean scores are based upon the following key:

Key: 1=very uncomfortable
2=somewhat uncomfortable
3=a little uncomfortable
4=comfortable

This key is the reverse of the key in the questionnaire. The scale was reversed so that larger numbers would represent improvement and be more similar to other scales in the evaluation. See the second paragraph of footnote a in Table 7-15.

[b] See footnote b in Table 7-15.

[c] See footnote c in Table 7-15.

[d] See footnote d in Table 7-15.

Table 7-19

Effects of George Mason 12th Grade Courses upon Frequency of Conversations about Sexuality: Mean Scores on Pretests and Posttests; and Significance Levels for Differences between Pretests and Posttests and between Experimental and Control Group Changes

			Means[a]		Significance[b]	
Outcome	Group[c]	N	Pre	Post	Pre vs Post	Change in E-Group[d] vs Change in C-Group
Q49: Frequency of conversations about sex with parents	E				NS	NS
	C				NS	
Q50: Frequency of conversations about sex with friends	E	44	5.1	5.3	NS	NS
	C	68	6.6	4.2	.020	
Q51: Frequency of conversations about sex with boy/girlfriend	E				NS	NS
	C				NS	
Q52: Frequency of conversations about birth control with parents	E	49	0.4	0.5	NS	NS
	C	70	0.3	0.6	.011	
Q53: Frequency of conversations about birth control with friends	E				NS	NS
	C				NS	
Q54: Frequency of conversations about birth control with boy/girlfriend	E				NS	NS
	C				NS	

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[a] All mean scores are the means of the frequencies for the last month. See the second paragraph of footnote a in Table 7-15.

[b] See footnote b in Table 7-15.

[c] See footnote c in Table 7-15.

[d] See footnote d in Table 7-15.

Table 7-20

Effects of George Mason 12th Grade Courses upon Sexual Intercourse and Use of Birth Control:

Mean Scores on Pretests and Posttests;
and Significance Levels for Differences between Pretests and Posttests
and between Experimental and Control Group Changes

			Means[a]		Significance[b]	
Outcome	Group[c]	N	Pre	Post	Pre vs Post	Change in E-Group[d] vs Change in C-Group
Q43: Ever had sex	E				NS	NS
	C				NS	
Q44: Had sex last month	E				NS	NS
	C				NS	
Q45: Frequency of sex last month	E				NS	NS
	C				NS	
Q46: Frequency of sex without birth control	E	45	0.5	0.1	NS	.041
	C	75	0.0	0.1	NS	
Q47: Frequency of sex with poor birth control	E	45	0.4	0.2	NS	.043
	C	75	0.1	0.5	NS	
Q48: Frequency of sex with effective birth control	E				NS	NS
	C				NS	

[a] For Questions 43 and 44, mean scores represent the proportions that have had intercourse. For Questions 45 through 48, mean scores are the means of the actual frequencies. See the second paragraph of footnote a in Table 7-15.

[b] See footnote b in Table 7-15.

[c] See footnote c in Table 7-15.

[d] See footnote d in Table 7-15.

Table 7-21

Student Assessments of the Impact of the George Mason 12th Grade Courses

Median[a]	Question
4.3	1. Do you know less or more about sexuality because of this course?
4.2	2. Do you now have less or more understanding of yourself and your behavior because of this course?
4.1	3. Are your attitudes and values about your own sexual behavior less or more clear because of this course?
4.6	4. Because of this course, do you now feel that using birth control when people are not ready to have children is less important or more important?
3.8	5. Do you talk about sexuality (e.g., going out, having sex, birth control, or male and female sex roles) with your friends less or more because of this course?
3.7	6. Do you talk about sexuality with your boy/girlfriend less or more because of this course?
3.4	7. Do you talk about sexuality with your parents less or more because of this course?
4.1	8. When you talk about sexuality with others (such as your friends, boy/girlfriend, and parents) are you less or more comfortable because of this course?
4.1	9. Do you now talk about sexuality less or more effectively (i.e. are you more able to talk about your thoughts, feelings, and needs and to listen carefully)?
3.0[b]	10. Are you less or more likely to have sex because of this course?
4.4	11. If you have sex, would you be less or more likely to use birth control because of this course?
4.3	12. If you have sex, would you be less comfortable or more comfortable using birth control because of this course?
3.9	13. Overall, do you now have less or more respect for yourself because of this course (i.e., do you have better feelings about yourself)?
3.7	14. Are you now less or more satisfied with your social behavior (e.g., going out and forming relationships) because of this course?
3.4	15. Because of this course, are you now less or more satisfied with your current sex life whatever it may be (it may be doing nothing, kissing, petting, or having sex)?
3.9	16. Do you now make worse or better decisions about your social life (e.g., going out and forming relationships) because of this course?
3.9	17. Do you now make worse or better decisions about your physical sexual behavior because of this course?
3.6	18. Do you now get along with your friends worse or better because of this course?

Footnotes to Table 7-21

[a] N=99

Key for Questions 1 to 15:	Key for Questions 16 to 18:
1=much less	1=much worse
2=somewhat less	2=somewhat worse
3=about the same	3=about the same
4=somewhat more	4=somewhat better
5=much more	5=much better

[b] For all questions, except #10, a median greater than 3.0 represents a positive change and a median less than 3.0 represents a negative change. For Question 10, the reverse is true.

Table 7-22

Parents' Assessment of the Impact upon Their Teenagers of the George Mason 12th Grade Course

Median[a]	Question
4.6	1. Does your teenager know less or more about sexuality because of this course?
4.6	2. Are you less or more comfortable talking about sexuality with your teenager because of this course?
4.5	3. Have you actually talked about sexuality with your teenager less or more because of this course?
4.9	4. Does your teenager talk and listen to you about sexuality less or more effectively because of this course?
4.9	5. Is your teenager less likely or more likely to make good decisions about social and sexual behavior (e.g. examine alternatives and consider consequences) because of this course?

[a] N=7

Key for Questions:
1=much less
2=less
3=about the same
4=more
5=much more

CHAPTER 8

FERNDALE ELEMENTARY SCHOOL AND HIGH SCHOOL

Description of the Program

Background

Ferndale is a small town on the Pacific coast in northern California. It is picturesque and beautiful; many of the houses and buildings are Victorian masterpieces and the wet misty climate helps fill the surrounding area with lush fields and redwood forests. Ferndale is a rural, middle class community with a population of only 2,700. Some residents travel to nearby communities as either blue collar or professional workers. Other residents are involved in the dairy or ranch operations or in the small businesses in town. Most of the residents have a mixed European descent; they are predominantly Catholic and Protestant.

Ferndale has two schools; an elementary school for grades k through 8, and a high school for grades 9 through 12. Working together the two schools developed an integrated sexuality education program.

During the 1970's Ferndale experienced an increasing number of pregnancies among its young people and an increasing number of divorces among married couples, particularly young married couples. In response to these changes, a parent-teacher group requested that the existing elective one-year course for junior and seniors be expanded. Consequently, the school districts selected a curriculum committee to develop a sexuality education curriculum. The committee included educators, administrators, clergymen, parents, and interested community members. They developed a curriculum which they submitted to the school board for adoption. At this point, a group opposed to sex education mounted a campaign to prevent the impementation. Despite this opposition, the school board revised the program a little and then adopted it. In 1978/1979 the school offered the first part of the program to juniors and seniors. Additional parts of the program were added the following two years. Since the program was implemented, parents and the community have continually supported it, and there have been no attacks on it. Apparently this success is partially due to the fact that the teachers are well known and respected in the community.

Goals

The entire program focuses upon five major goals:

- To help each child develop the behavior patterns, through knowledge and attitudes, essential for total physical, mental, and social well-being for himself, his family, and his community.

- To help the child cope with physical, psychological, and social changes of sexual development (growth, puberty, sexual activity, marriage, pregnancy, and parenthood) by providing information; by encouraging personal responsibility, self-respect, and respect for others; by giving support and counsel; and by providing opportunities for active learning.

- To recognize the family as a basic social institution and to understand the importance of successful family life for the individual and for society.

- To develop a healthy mind and body and an understanding of the functioning and proper care of the human body.

- To develop a spiral of learning experiences to establish sexuality as an entity within healthy interpersonal relationships.

Elementary School Program

3rd Grade. The topics include family composition, duties, and responsibilities; self-concept; plant and animal life cycles; and human growth. These topics are fully integrated into the previous curriculum. During the year, students construct a book entitled, *Myself*, and raise fruitflies, mealworms, and butterflies.

4th Grade. Sexuality topics are also integrated into other units. They include family roles, the history of family roles, the role of the child in the family, acceptable methods of handling their own emotions, human growth patterns, and body parts (but not specifically reproductive organs).

5th and 6th Grades. The fifth grade year is the first year that the students receive a formal sexuality education unit. Both it and the sixth grade unit include several sessions divided over two weeks. The units build upon the previous grades; they cover family composition, male and female reproductive systems and processes, body changes during puberty, the principles of cells and heredity. The girls also see a film on menstruation, while the boys see separately a different film for boys.

7th Grade. Many of the topics are covered in the science program -- cell structure and reproductive systems of earthworms, grasshoppers, and frogs. However, in other units the class covers the first ten chapters of *Me, Understanding Myself and Others* by Riker and Riker. These chapters focus upon growing up, appearance, understanding parents, communication, and other topics.

8th Grade. Some topics are again covered in the science unit -- human anatomy, cell reproduction, human reproduction, and sexually transmitted diseases; other topics such as friendships, popularity, and listening skills and the remainder of the Riker and Riker text are covered in other units. In addition to hearing lectures, the students participate in class discussions, write anonymous questions for the question box, and observe films.

High School

9th and 10th Grades. The sexuality topics are integrated into the 9th grade world culture class and the 10th grade biology class. Each lasts about two to three weeks. They focus upon values, dating standards, life planning, goal setting, decisionmaking, reproductive systems, birth control, sexually transmitted disease, and relationships.

11th and 12th Grade Course. This course is designed to better prepare the students for adulthood. Consequently, it lasts an entire year and is far more comprehensive. The course covers the following topics in much greater depth than the previous courses:

- self awareness and self acceptance
- decisionmaking
- anatomy and physiology
- birth control
- pregnancy and childbirth
- sexually transmitted diseases
- legal aspects of sexuality -- pornography, prostitution, rape, and incest
- relationships -- values in choosing friends, dating, mate selection, alternative life styles, homosexuality
- premarital sex -- religious and social attitudes, peer pressure, possible consequences
- marriage
- fiscal management
- parenthood and its responsibilities
- dissolutions of marriage and the family unit -- separation, divorce, death

The teacher utilizes well a large number of printed materials in the course. She gives each student a text, Finding My Way, by Riker and Riker, and also hands out a variety of other materials. She both provides a large amount of factual material in class and encourages students to participate. She has the students complete worksheets which require that they understand and express their knowledge of the material. She also incorporates films and role playing, and invites guest speakers to discuss their specialty. For example, pediatricians have discussed childbirth, and older people who are accustomed to talking with young people have discussed dating and relationships 50 years ago.

Because the course covers more sensitive topics, it is an elective requiring parental consent. Fewer than three percent of parents withhold their consent.

Teacher Characteristics

Susan Petersen is the lead teacher in the program. She has participated in several training workshops for sexuality educators and is very knowledgeable about family life and sexuality. She has lived in the community for many years and has the support of the community.

Several other teachers in the program have also completed workshops in sexuality education. The first time that they taught some of the subjects, they were somewhat uncomfortable, but in the subsequent years, they have improved their instruction and become fully comfortable with the topic of sexuality. All the teachers who do so like the idea of incorporating sexuality into other classes.

Evaluation of the Effects of the Program

6th Grade Class

The 6th grade teacher developed and administered a knowledge test to thirty 6th grade students both before and after their units on sexuality. Because the students were so young, neither the standardized knowledge test developed by Mathtech nor the other questionnaires developed by Mathtech were used.

The resulting data indicate that the course did increase knowledge. The mean correct score on the knowledge test increased from 59 percent to 83 percent. This improvement was statistically significant ($p = .000$) and was also substantively significant. There was no control group, but the elapsed time between the pretest and the posttest was only a few weeks, and undoubtedly the 6th graders would not have increased their scores by such a large amount if they had not taken the units.

7th and 8th Grade Classes

The 7th and 8th grade teachers also developed and administered a knowledge test to 63 of their students both before and after they covered the units on sexuality. They did not use any of the Mathtech questionnaires because of their inappropriateness for those students.

Our analysis of the test scores indicated that the latter part of the posttest was administered or completed improperly. When this part of the test was removed and only the first 11 questions analyzed, the results indicated that both the 7th and 8th grades had a statistically significant increase in knowledge.

9th Grade Class

The 9th grade teacher selected those questions from the Mathtech knowledge test that she covered in her sexuality unit. She administered the resulting questionnaire to her 42 students both before and after the sexuality unit.

The scores indicated that the program did increase knowledge. The mean percentage of correct answers increased from 70.0 percent to 77.6 percent. This was statistically significant ($p = .031$). There was no control group, but the pretests and posttests were administered only a few weeks apart, and the change was undoubtedly due to the course. However, delayed posttests were not administered, and thus there are no data on the longevity of the knowledge increase.

10th Grade Class

The 10th grade teacher administered portions of the Mathtech questionnaires, but unfortunately, the questionnaires were lost at Ferndale and could not be analyzed.

11th and 12th Grade Class

Summary of the evaluation methods. Students completed questionnaires measuring knowledge, attitudes and values, and behavior at the beginning of the course in September (pretests) and at the end of the course in May (posttests). Because most of the students take the course, there was not a feasible control group in the school. Consequently, we used the control group from Council Rock High School which was also composed of seniors, many of which were from a middle class rural area.

Impact upon knowledge. According to Table 8-1 the junior/senior course did have an impact upon knowledge. Between the pretest and posttest their knowledge test scores increased by 15 percent. This was significantly more than the knowledge increase of the control group. There were also statistically significant increases in the sub-test measuring physical development and sexually transmitted diseases. Other areas had increases, but they were not greater than those of the control group.

Impact upon self understanding. Although the course had an impact upon factual knowledge, it apparently did not increase self understanding. In fact, the sexuality students had a slight decrease in clarity of personal values and in understanding of emotional needs, while the control group had an increase (Table 8-2). These differences were statistically significant. Part of the explanation for this is that the control group contained only seniors who were approaching graduation and had an unusually large increase in these areas, while the sexuality class also contained several juniors.

Impact upon attitudes. Table 8-2 indicates that the sexuality course did have an impact upon attitudes. The sexuality students developed less permissive attitudes toward premarital sex, while the control group developed more permissive attitudes. Secondly, the sexuality students became much more opposed to the use of pressure and force in sex, while the control group did not. Both of these differences were statistically significant.

Impact upon self esteem and satisfaction with social relations. The data indicate that the course had no measureable impact upon self esteem, satisfaction with personal sexuality, or satisfaction with personal social relationships.

Impact upon skills. According to Table 8-3 the sexuality course did not have a significant effect upon social or sexual decisionmaking skills or communication skills as measured by the questionnaires.

Impact upon comfort. Table 8-4 indicates that the sexuality course had little or no impact upon comfort. On only one of seven measures was there a statistically significant difference between the sexuality class and the control group. This difference was just marginally significant and was due to the control groups unusually large increase in comfort being assertive.

Overall Program -- Impact upon Pregnancies

To measure the impact of the total program upon pregnancies, we collected pregnancy data for the years 1975 - 1982 from the nearby clinics where most students go for pregnancy tests. Our methods of collecting these data are more fully described in Chapter 4.

The data show that the pregnancy rates vary greatly each year. This is partly because the student body is very small, the number of pregnancies is very small, and a change of only two or three pregnancies can substantially change the pregnancy rates. After the course was offered to juniors and seniors, the number of pregnancies decreased very slightly. However, this decrease was not statistically significant and the number of pregnancies did not consistently decline each year as the program reached an increasingly large percentage of the student body. Thus, these data indicate that the program did not have a significant impact upon pregnancies, but this is not a sensitive measure of the program's impact because of the small number of students, pregnancies, and years of data.

Table 8-1

Effects of the Ferndale 12th Grade Courses upon Knowledge:
Mean Percent Correct on Pretests and Posttests;
and Significance Levels for Differences between Pretests and Posttests
and between Experimental and Control Group Changes

			Means[a]		Significance[b]	
Outcome	Group[c]	N	Pre	Post	Pre vs Post	Change in E-Group[d] vs Change in C-Group
Total Knowledge	E	11	70.9	86.2	.001	.033
	C	32	79.7	86.2	.000	
Physical Developmnt and Reproduction	E	11	86.4	97.0	.011	.014
	C	32	92.7	92.2	NS	
Adolescent Relationships	E	11	84.8	100.0	.016	NS
	C	32	92.7	99.0	NS	
Adolescent Social and Sexual Activty	E	11	70.1	93.2	.010	NS
	C	32	78.9	84.4	NS	
Adolescent Pregnancy	E				NS	NS
	C				NS	
Adolescent Marriage	E				NS	NS
	C				NS	
Probability of Becoming Pregnant	E				NS	NS
	C				NS	
Birth Control	E	11	76.6	92.2	.038	NS
	C	32	88.8	92.9	.048	
Sexually Transmitted Diseases	E	11	61.8	81.8	.004	.026
	C	32	81.3	86.3	NS	

[a] Each mean score is the mean percent of correct answers.
Both the experimental and control groups completed the pretest at the beginning of the course and the posttest at the end of the course.

[b] All tests of significance are matched-pairs two-tailed t-tests. Smaller numbers represent smaller probabilities of results having occurred by chance. Thus, .000 is the probability rounded to three digits and represents the highest level of significance. If the probability of results having occurred by chance was greater than .050, then the data were not considered significant and were not included in the table. Thus, NS means not significant at the .05 level.

[c] E is the experimental group. C is the 12th grade control group from Council Rock High School.

[d] This column is the significance of the difference between the change in the experimental group and the change in the control group. The change in each group is the posttest minus the pretest.

Table 8-2

Effects of the Ferndale 12th Grade Courses upon Self Understanding, Attitudes, Self esteem, and Satisfaction with Sexuality and Social Relationships:

Mean Scores on Pretests and Posttests;
and Significance Levels for Differences between Pretests and Posttests
and between Experimental and Control Group Changes

			Means[a]		Significance[b]	
Outcome	Group[c]	N	Pre	Post	Pre vs Post	Change in E-Group[d] vs Change in C-Group
Clarity of Long Term Goals	E	10	3.4	3.3	NS	NS
	C	37	3.3	3.7	.006	
Clarity of Personal Sexual Values	E	10	3.6	3.3	.025	.001
	C	37	3.5	3.8	.025	
Understanding of Emotional Needs	E	10	3.7	3.5	NS	.012
	C	36	3.4	3.6	.049	
Understanding of Personal Social Behavior	E				NS	NS
	C				NS	
Understanding of Personal Sexual Response	E	10	3.4	3.5	NS	NS
	C	36	3.3	3.7	.000	
Attitude toward Gender Role Behaviors	E				NS	NS
	C				NS	
Attitude toward Sexuality in Life	E				NS	NS
	C				NS	
Attitude toward the Importance of Birth Control	E	10	4.4	4.8	.043	NS
	C	35	4.4	4.6	.042	
Attitude toward Premarital Intercourse	E	9	2.3	2.5	NS	.017
	C	37	2.8	2.4	.021	

Table 8-2 (Continued)

			Means[a]		Significance[b]	
Outcome	Group[c]	N	Pre	Post	Pre vs Post	Change in E-Group[d] vs Change in C-Group
Attitude toward Use of Pressure and Force in Sex	E	10	4.5	4.9	.014	.029
	C	37	4.6	4.6	NS	
Recognition of the Importance of the Family	E				NS	NS
	C				NS	
Self-esteem	E				NS	NS
	C				NS	
Satisfaction with Personal Sexuality	E	10	3.5	3.6	NS	NS
	C	35	3.3	3.6	.034	
Satisfaction with Social Relationships	E	9	2.8	3.3	.045	NS
	C	37	3.8	3.9	NS	

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[a] All mean scores are based upon five 1-5 Likert type scales. They were scored so that the possible range is 1 to 5 with increases representing improvement. See the second paragraph of footnote a in Table 8-1.

[b] See footnote b in Table 8-1.

[c] See footnote c in Table 8-1.

[d] See footnote d in Table 8-1.

Table 8-3

Effects of Ferndale 12th Grade Courses upon Skills:
Mean Score on Pretests and Posttests; and Significance Levels for Differences between Pretests and Posttests and between Experimental and Control Group Changes

			Means[a]		Significance[b]	
Outcome	Group[c]	N	Pre	Post	Pre vs Post	Change in E-Group[d] vs Change in C-Group
Social Decisionmaking Skills	E	10	3.9	4.1	NS	NS
	C	33	3.8	4.1	.003	
Sexual Decisionmaking Skills	E				NS	NS
	C				NS	
Communication Skills	E	10	3.8	3.8	NS	NS
	C	32	3.8	4.1	.031	

[a] Mean scores are based upon multi-item indices which are scored so that the final scale has a possible range of 1 to 5 and increases represent improvements. See the second paragraph of footnote a in Table 8-1.

[b] See footnote b in Table 8-1.

[c] See footnote c in Table 8-1.

[d] See footnote d in Table 8-1.

Table 8-4

Effects of Ferndale 12th Grade Courses upon Comfort with Different Activities: Mean Scores on Pretests and Posttests; and Significance Levels for Differences between Pretests and Posttests and between Experimental and Control Group Changes

			Means[a]		Significance[b]	
Outcome	Group[c]	N	Pre	Post	Pre vs Post	Change in E-Group[d] vs Change in C-Group
Comfort Engaging in Social Activities	E	10	3.7	3.5	NS	NS
	C	31	3.4	3.6	.020	
Comfort Talking about Sex	E	8	2.4	2.6	NS	NS
	C	24	2.5	3.0	.003	
Comfort Talking about Birth Control	E	9	2.7	2.7	NS	NS
	C	19	2.7	3.1	.003	
Comfort Talking with Parents about Sexuality	E	9	1.9	2.1	NS	NS
	C	26	2.0	2.4	.033	
Comfort Expressing Concern and Caring	E	10	3.0	2.9	NS	NS
	C	33	3.3	3.6	.037	
Comfort Being Sexually Assertive (Saying "No")	E	10	2.8	2.9	NS	.046
	C	24	2.8	3.3	.021	
Comfort Having Current Sex Life	E				NS	NS
	C				NS	

[a] The means are based upon the following key:

Key: 1=very uncomfortable
2=somewhat uncomfortable
3=a little uncomfortable
4=comfortable

This key is the reverse of the key in the questionnaire. The scale was reversed so that larger numbers would represent improvement and be more similar to other scales in the evaluation. See the second paragraph of footnote a in Table 8-1.

[b] See footnote b in Table 8-1.
[c] See footnote c in Table 8-1.
[d] See footnote d in Table 8-1.

CHAPTER 9

FAMILY GUIDANCE CENTER SCHOOL PROGRAM

Description of the Program

Background

The Family Guidance Center in St. Joseph, Missouri is a community mental health center. It provides family planning clinical services, infertility and pregnancy counseling to clinic patients, and a wide variety of sexuality and family life programs to schools and other community groups. Its conferences and parent/child programs are evaluated in Chapters 12 and 15.

The Family Guidance Center serves nine rural counties in northwest Missouri. Those counties contain a wide range of occupations, but many revolve around agriculture. Most of the people are white and Protestant. In general, they hold rather traditional values about sexuality.

Outside of St. Joseph, most of the schools are consolidated schools with grades kindergarten through twelve in the same building. Typically children are bussed to them.

Prior to the Family Guidance Center program, sexuality education in the schools was scarce and lacked consistency. A few teachers covered a few topics such as anatomy, reproduction in other animals, and parenting in other courses such as biology, home economics, or health. However, this coverage was not well integrated, and many students were not exposed to the instruction. The Family Guidance Center offers the schools a short, but nevertheless more complete and better integrated program for all appropriate students.

Principles and Goals

The course is based upon several principles which are shared with the parents and school authorities:

- Sexuality is an integral part of each person's self from birth to death.
- Sexuality education is an ongoing process, spanning the entire life cycle.
- People have a need for accurate information about sexuality.
- Interpersonal communication is a vital component of developing a healthy sexuality.
- People are directed by a set of personal values, beliefs, and feelings that are uniquely their own.
- There is a need for educational programs to promote the general mental health of all people.
- These programs and services should be available to all persons, regardless of their race, creed, origin, sex, age, social class, or personal belief.

Because the course is short, its goals are basic:

- To increase the students' knowledge about sexuality.
- To promote an awareness of the risks and consequences of teenage pregnancy and sexually transmitted diseases.
- To increase the students' awareness of community service agencies, such as public health clinics and family planning clinics.
- To increase the students' feelings of self-worth as sexual people.
- To encourage more meaningful discussion about issues involving sexuality between students and their parents, friends, and girlfriends or boyfriends.
- To reduce unintended pregnancy.

Course Structure and Activities

The course was taught for five class periods on five consecutive days. Each class period typically lasted 45 to 55 minutes and included the following activities:

Day 1
Introduction to the course
Activity: "What teens want or need to know about sex?"
Discussion with handout: anatomy and physiology
Question box

Day 2
Information posters
Activity with handout: Qualities of a Date/mate
Discussion: dating
Question box

Day 3
Question box answers
Film: "Are You Ready for Sex?"
Discussion: values and decisionmaking about having sex, peer pressure
Discussion: contraception -- methods and responsibility

Day 4
Film: "Teenage Father"
Discussion: Teenage pregnancy

Day 5
Question box answers
Activity: "STD Handshake"
Discussion: sexually transmitted diseases
Wrap-up

The first activity in the course, "What teens want or need to know about sex," tends to validate the ensuing curriculum. Students are divided into small groups of three to six people and list topics that they feel teenagers need information about. These lists nearly always include the topics to be covered during the five days.

The question box is used a couple of times during the course. Students put questions into a box which are read and answered later by the teachers. This gives students the opportunity to ask anonymously questions that are important to them. It also gives the staff the opportunity to answer questions that students have about topics that cannot be included as separate topics. Parents, the school administrators, and the teachers have agreed that some topics should not be covered separately, but that questions about those subjects can be answered when students ask them.

On the second day, the "Information Posters" provide a medical definition and additional medical, social, and personal information about menstruation, erection, ejaculation, orgasm, intercouse, masturbation, birth control, and homosexuality. These posters and the ensuing discussion expose students to "core terms" and give the students the opportunity to reread important facts about any of the terms on subsequent days.

During the activity, "Qualities of a Date/mate," students are again divided into small all male and all female groups and each group, as a group, must review a list of 20 important qualities of a date or mate, select the 10 most important ones, and then rank order those 10. The class then discusses the lists and observes their values stated in these lists, the differences that teenagers have, and the effects of peer pressure in the process of ranking.

The final activity included during the last day is the "STD Handshake." Each student is given a folded piece of paper and told not to open it until so instructed. Each student then shakes hands with five other persons, and records the names on the outside of the paper. When instructed to open the paper, some of the students find the name of a sexually transmitted disease upon the paper. These people all stand and read their lists of contacts. As the names of these contacted people are read, they also stand, and in turn, read their contacts. The names of some people are read two or more times, indicating they caught two or more sexually transmitted diseases. This activity vividly demonstrates how easily sexually transmitted diseases can be spread.

Teacher Characteristics

The classes are taught by Lynn Peterson and Bob Linebarger. Both of their teaching styles incorporate a great deal of personal warmth, enthusiasm, humor, sensitivity, and concern. Both of them relate exceptionally well to young people as well as to their parents.

Both of them have Masters of Science degrees in Family Life Education from Kansas State University, have college experience in group processes, and have been teaching family life education for more than five years. They have been involved with many community organizations and schools. They also teach the conferences and parent/child programs discussed in other chapters.

Developing Relationships with the Schools and Parents

The Family Guidance Center is a nonschool agency providing a sexuality education program to schools. Often it is difficult for outside agencies to provide sexuality education to schools. The Family Guidance Center relies upon a variety of mechanisms to develop relationships with schools and parents. First, it has an excellent reputation in the counties and this helps them when they call schools to offer their program. Second, they do a considerable amount of general marketing, e.g., they send an informative newsletter each fall to many schools, other organizations, and parents, and they sometimes appear on radio talk shows. Third, they work with many nonschool groups such as churches, Boy Scouts, and Girl Scouts, and people from these groups often tell others about the program. Fourth, they provide the parent/child programs that are discussed elsewhere in this volume and these programs increase support. All of this involvement in the community provide word of mouth contacts that are often the most successful.

After establishing an initial contact with the schools, the Center meets formally with the appropriate school administrator and more fully describes the program. In some schools they receive formal approval from the superintendent or school board.

In all schools students must receive parental consent before they can participate in the program. In most schools the Family Guidance Center sends home information about the course and invites the parents to attend a meeting about the course. This meeting helps inform the parents and relieves any anxieties about the course.

In a few schools, parents have previously formed a parent advisory group which then invites the Family Guidance Center to explain the course. Typically, the parent group then formally approves the course.

Student Evaluation of the School Course

The student evaluations of the teachers were excellent (Table 9-1). On most of the positive items the scores exceeded 4.0; on the negative items the scores were low. The overall median rating for the teachers was also excellent (median =4.6, Table 9-3).

The lowest median rating was given on the extent to which the teachers encouraged students to talk with their parents. This item received a median rating of 3.0 or "a medium amount." This is certainly reasonable, but does allow improvement. This is also room for improvement in the extent to which the teachers discourage hurting others in sexual situations.

The students gave very acceptable ratings to the classroom environment (Table 9-2), but the ratings involving participation in class discussions were not as high as the respective ratings for the longer more comprehensive classes. This is not surprising. In a 5 hour course, it is not possible to encourage as much class discussion and expression of thoughts and feelings as in a 75 hour class.

All of the summary evaluations ranged from good to excellent (Table 9-3). The overall rating for the course was 4.5, which is excellent for such a short program.

Evaluation of the Effects of the Course

Summary of the Evaluation Methods

At the beginning of the program, at the end of the program, and about four months after the program, students in the course completed the integrated questionnaires which included questions about knowledge, attitudes, and behavior. Because students completed the first posttest questionnaires just four days after the pretest questionnaires, and because the behavior questions ask about behavior during the preceding month, the behavior questions were inappropriate for the first posttest and were excluded from that version of the questionnaire.

It was not possible to obtain a control group in any of the schools, because nearly all the students in the school of an appropriate age took the course. Because of the short time between the pretests and posttests (four days), any changes in the knowledge and attitudes of the experimental students were undoubtedly due to the course and a control group is not needed. If we had taken any of the control groups and interpolated to find the amount of change in four days, we would not have found any significant change in any outcome in any control group. However, the length of time between the pretest and second posttest is sufficiently large to allow other factors to produce change. Consequently, we compared the pretest and second posttests of the experimental students with the pretests and posttests of a control group from Dos Pueblos High School. The duration of time between the pretests and second posttest of the experimental group approximately equaled the elapsed time between between the pretest and posttests of the control group. The experimental and control groups were roughly similar in age and racial social-economic background.

At the end of the course, the students also completed a course evaluation and assessment.

Impact upon Knowledge

According to Table 9-4, the course increased knowledge. Between the pretest and the posttest, the mean percent correct increased about ten percentage points, and this increase did not diminish by the second posttest. The pretest/posttest was statistically significant, and the pretest/second posttest difference was both statistically significant and significantly greater than the gain in the control group.

This is consistent with students' course assessment. They claim that they know a little more about sexuality because of the course (Table 9-8).

Impact upon Clarity of Values

According to Table 9-4, the course helped students clarify their values. There were statistically significant increases in clarity of values between the pretests and posttests, and also between the pretests and second posttests. Moreover, the latter increase was significantly greater than the gain in the control group. The increases were small (about .2 on a 1 to 5 scale), but this is encouraging for such a short course.

This is also consistent with the students' course assessment. They claim that their attitudes and values about sexuality are a little more clear because of the course (Table 9-8).

Impact upon Attitudes

According to the pretest/posttest data (Table 9-4), the course did not have an impact upon attitude toward the importance of birth control nor upon attitude toward premarital intercourse. None of the changes was statistically significant.

The course assessment data give a different picture. According to the students, the course had a greater impact upon their attitude toward birth control than upon anything else; that item received the largest median rating (median = 4.1, Table 9-8).

Impact upon Skills

Table 9-4 also indicates that the course had no impact upon sexual decisionmaking skills, assertiveness skills, or birth control communication skills. This may be because most of the students are young and do not need to use the skills (the questionnaires ask about their actual use, not about their ability to use them).

The students' course assessments indicate that the students are slightly more likely to make better decisions and use these skills.

Impact upon Comfort

According to Table 9-5, the course increased comfort talking about sex by the second posttest, and comfort talking about sexuality with parents by both the first and second posttests. The latter increase was substantial (from 1.9 to 2.2).

This is consistent with Table 9-8 in which the students claim that they are more comfortable talking with others about sex.

Also according to Table 9-5, the course did not change comfort talking about birth control, comfort with existing sex life, nor comfort getting and using birth control. Once again, this may be because most of the students are young and are not sexually active.

In Table 9-8, students claim that because of the course they will be somewhat more comfortable using birth control when they have sex.

Impact upon Frequency of Communication

According to Table 9-6 the course did not have a significant impact upon frequency of conversations about sex or birth control with parents, friends, or girlfriends or boyfriends. On three measures, there was a significant increase in either the experimental or control group, but there was also an increase in the other, and neither group increased significantly more than the other.

The students' assessments in Table 9-8 give the same indications; they also indicate that the students talk about the same amount with others about sex.

Impact upon Sexual Behavior

Table 9-7 indicates that the course did not have a significant impact upon having sex nor upon use of birth control. Although the students in the course had a significant increase on three questions, their changes were not significantly different from those of the control group.

This is partially consistent with the students' course assessments. To a remarkable extent they claim that the course did not affect the probability of their having sex (median = 3.0, Table 9-8). However, they claim that if they have sex, they would be "somewhat more likely" to use birth control (median = 4.0, Table 9-8).

Summary of Results

The data support several conclusions:

- The students thought the course was good or excellent in almost all respects.
- The pretest/posttest data indicate that the course significantly increased knowledge, clarity of values, and comfort talking about sexuality, particularly with parents.
- The pretest/posttest data also indicate that course did not significantly change attitudes toward birth control or the morality of having sex, sexual decisionmaking and communication skills, comfort having current sex life or using birth control, frequency of conversations about sex or birth control, having sex, or using birth control.
- The students' course assessments indicate that the course would not affect whether or not they would have sex, but did increase their perceived importance of birth control, and would increase their use of birth control and their comfort with using birth control.

Some of the measured outcomes were not significant because many of students were not sexually active. For example, no more than 22 students had sex during both the months preceding the pretest and second posttest.

Table 9-1

Student Evaluations of the Teachers in the Family Guidance Center Course in the Schools[a]

Positive Questions

Median	Question
4.2	1. How enthusiastic was the teacher about teaching this course?
4.6	4. How much did the teacher talk at a level that the students could understand?
4.6	5. How much did the teacher care about the students?
4.6	6. How much respect did the teacher show to the students?
4.1	7. How much did the students trust the teacher?
4.7	8. How well did the teacher get along with the students?
3.9	9. How much did the teacher encourage the students to talk about their feelings and opinions?
4.4	11. How carefully did the teacher listen to the students?
3.3	12. How much did the teacher discourage hurting others in sexual situations (e.g., knowingly spreading VD or forcing someone to have sex)?
4.6	13. How much did the teacher encourage thinking about the consequences before having sexual relations?
4.7	14. How much did the teacher encourage students to think about their own values about sexuality?
4.7	15. How much did the teacher encourage the use of birth control to avoid unwanted pregnancy?
3.0	16. How much did the teacher encourage students to talk with their parents about sexuality?

Negative Questions

Median	Question
1.1	2. How uncomfortable was the teacher in discussing different things about sex?
2.0	3. How much did the teacher discuss topics in a way that made students feel uncomfortable?
2.3	10. To what extent did the teacher talk too much about what's right and wrong?

[a] N=40

Key: 1=not at all
2=a small amount
3=a medium amount
4=a large amount
5=a great deal

Table 9-2

Student Evaluations of the Classroom Environment in the Family Guidance Center Course in the Schools[a]

Positive Questions

Median	Question
3.1	18. How much did students participate in class discussions?
3.5	19. How much were you encouraged to ask any questions you had about sex?
3.5	22. How much did you show concern for the other students in the class?
3.7	23. How much did the other students show concern for you?
4.1	24. How much were the students' opinions given in the class kept confidential (i.e., not spread outside the classroom)?
4.3	25. How much were you permitted to have values or opinions different from others in the class?

Negative Questions

Median	Question
1.3	17. How bored were you by the course?
2.8	20. How much difficulty did you have talking about your own thoughts and feelings?
2.3	21. How much difficulty did you have asking questions and talking about sexual topics?

[a] N=40

Key: 1=not at all
2=a small amount
3=a medium amount
4=a large amount
5=a great deal

Table 9-3

Student Summary Evaluations of the Family Guidance Center Course in the Schools[a]

Median	Question
4.6	26. What is your evaluation of the teacher?
4.1	27. What is your evaluation of the topics covered in the course?
4.3	28. What is your evaluation of the materials used, such as books and films?
4.1	29. What is your evaluation of the organization and format of the program (e.g., length, location, and time)?
4.5	30. What is your evaluation of the overall program?

[a] N=40

Key: 1=very poor
2=poor
3=average
4=good
5=excellent

Table 9-4

Effects upon Knowledge, Attitudes, and Skills of the Family Guidance Center Course in the Schools:

Mean Percent Correct on Pretests, Posttests, and 2nd Posttests;
and Significance Levels for Differences between Pretests and Posttests
and between Experimental and Control Group Changes

			Means[a]			Significance[b]	
Outcome	Group[c]	N	Pre	1st Post	2nd Post	Pre vs 1st or 2nd Post	Change in E-Group[d] vs Change in C-Group
Knowledge	E	259	64.9	75.0		.000	NA
	E	143	67.8		78.0	.000	.038
	C	65	68.3		72.5	NS	
Clarity of Personal Sexual Values	E	247	3.4	3.6		.000	NA
	E	139	3.4		3.7	.000	.006
	C	57	3.8		3.9	NS	
Attitude toward the Importance of Birth Control	E					NS	NA
	E					NS	NS
	C					NS	
Attitude toward Premarital Intercourse	E					NS	NA
	E					NS	NS
	C					NS	
Sexual Decisionmaking Skills	E					NS	NA
	E					NS	NS
	C					NS	
Assertiveness Skills	E					NS	NA
	E					NS	NS
	C					NS	
Birth Control Communication Skills	E					NS	NA
	E					NS	NS
	C					NS	

Footnotes to Table 9-4

[a] The mean scores of the knowledge test are the mean percents of correct answers. The means of the clarity of values and the attitudes are based upon five 1-5 Likert type scales. The mean scores of the skills are based upon multi-item indices. Both the attitudes and the skills are scored so that the final scales have a possible range of 1 to 5 and increases represent improvements.

The experimental group completed the pretest at the beginning of the program, first posttests at the end of the program, and second posttests about three to four months later. Because the elapsed time between the pretest and first posttest was so short, there was no control group for the pretest and first posttest. For the pretest and second posttest data there was a control group. The elapsed time between the experimental pretest and second posttest and the control pretest and posttest are about the same. Because some experimental students did not complete the 2nd posttest, the sample size for the 2nd posttest is smaller, and the data are presented on a separate line.

[b] NA means not appropriate because there was no control group for the pretest and first posttest data. NS means not significant at the .05 level. All tests of significance are matched-pairs two-tailed t-tests. Smaller numbers represent smaller probabilities of results having occurred by chance. Thus, .000 is the probability rounded to three digits and represents the highest level of significance. If the probability of results having occurred by chance was greater than .050, then the data were considered not significant and were not included in the table.

[c] E is the experimental group. C is the control group from Dos Pueblos High School.

[d] This column is the significance of the difference between the change in the experimental group and the change in the control group. The change in each group is either the first posttest minus the pretest or the second posttest minus the pretest.

Table 9-5

Effects upon Comfort with Different Activities of the Family Guidance Center Course in the Schools:

Mean Scores on Pretests, Posttests, and 2nd Posttests;
and Significance Levels for Differences between Pretests and Posttests
and between Experimental and Control Group Changes

			Means[a]			Significance[b]	
Outcome	Group[c]	N	Pre	1st Post	2nd Post	Pre vs 1st or 2nd Post	Change in E-Group[d] vs Change in C-Group
Comfort Talking about sex	E	178	2.7	2.8		NS	NA
	E	92	2.7		3.0	.000	.015
	C	34	2.6		2.7	NS	
Comfort Talking about Birth Control	E	141	2.7	2.7		NS	NA
	E	71	2.7		2.9	.028	NS
	C	23	2.6		2.8	NS	
Comfort Talking with Parents about Sexuality	E	194	2.0	2.2		.001	NA
	E	98	1.9		2.2	.003	.042
	C	47	2.3		2.3	NS	
Comfort Having Current Sex Life	E					NS	NA
	E					NS	NS
	C					NS	
Comfort Getting and Using Birth Control	E	42	2.4	2.5		NS	NA
	E	19	2.5		3.0	.003	NS
	C	9	2.7		3.0	NS	

[a] The means are based upon the following key:

Key: 1=very uncomfortable
2=somewhat uncomfortable
3=a little uncomfortable
4=comfortable

This key is the reverse of the key in the questionnaire. The scale was reversed so that larger numbers would represent improvement and be more similar to other scales in the evaluation. See the second paragraph of footnote a in Table 9-4.

[b] See footnote b in Table 9-4.

[c] See footnote c in Table 9-4.

[d] See footnote d in Table 9-4.

Table 9-6

Effects upon Frequency of Conversations about Sexuality of the Family Guidance Center Course in the Schools:
Mean Scores on Pretests and 2nd Posttests;
and Significance Levels for Differences between Pretests and Second Posttests
and between Experimental and Control Group Changes

			Means[a]		Significance[b]	
Outcome	Group[c]	N	Pre	2nd Post	Pre vs 2nd Post	Change in E-Group vs[d] Change in C-Group
Frequency of conversations about sex with parents	E				NS	NS
	C				NS	
Frequency of conversations about sex with friends	E				NS	NS
	C				NS	
Frequency of conversations about sex with boy/girlfriend	E	135	1.9	2.4	NS	NS
	C	64	0.8	1.7	.028	
Frequency of conversations about birth control with parents	E	137	0.4	0.7	.043	NS
	C	61	0.3	0.5	NS	
Frequency of conversations about birth control with friends	E				NS	NS
	C				NS	
Frequency of conversations about birth control with boy/girlfriend	E	137	0.8	1.6	.003	NS
	C	60	0.9	1.6	NS	

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[a] All mean scores are the means of the frequencies for the last month. See the second paragraph of footnote a in Table 9-4.

[b] See footnote b in Table 9-4.

[c] See footnote c in Table 9-4.

[d] See footnote d in Table 9-4.

Table 9-7

Effects upon Sexual Intercourse and Use of Birth Control of the Family Guidance Center Course in the Schools:

Mean Scores on Pretests and 2nd Posttests;
and Significance Levels for Differences between Pretests and Second Posttests
and between Experimental and Control Group Changes

			Means[a]		Significance[b]	
Outcome	Group[c]	N	Pre	2nd Post	Pre vs 2nd Post	Change in E-Group vs[d] Change in C-Group
Ever had sex	E	139	.32	.38	.002	NS
	C	63	.14	.16	NS	
Had sex last month	E	139	.16	.22	.049	NS
	C	63	.11	.11	NS	
Frequency of sex last month	E				NS	NS
	C				NS	
Frequency of sex without birth control	E				NS	NS
	C				NS	
Frequency of sex with poor birth control	E	142	0.1	0.3	.020	NS
	C	64	0.0	0.3	NS	
Frequency of sex with effective birth control	E				NS	NS
	C				NS	

[a] For the first two questions, mean scores represent the proportions that have had intercourse. For the remaining questions, mean scores are the means of the actual frequencies. See the second paragraph of footnote a in Table 9-4.

[b] See footnote b in Table 9-4.

[c] See footnote c in Table 9-4.

[d] See footnote d in Table 9-4.

Table 9-8

Student Assessments of the Impact of the Family Guidance Center Course in the Schools

Median[a]	Question
3.6	1. Do you know less or more about sexuality because of this course?
3.4	2. Do you now have less or more understanding of yourself and your behavior because of this course?
3.4	3. Are your attitudes and values about your own sexual behavior less or more clear because of this course?
4.1	4. Because of this course, do you now feel that using birth control when people are not ready to have children is less important or more important?
3.2	5. Do you talk about sexuality (e.g., going out, having sex, birth control, or male and female sex roles) with your friends less or more because of this course?
3.1	6. Do you talk about sexuality with your boy/girlfriend less or more because of this course?
3.0	7. Do you talk about sexuality with your parents less or more because of this course?
3.4	8. When you talk about sexuality with others (such as your friends, boy/girlfriend, and parents) are you less or more comfortable because of this course?
3.3	9. Do you now talk about sexuality less or more effectively (i.e. are you more able to talk about your thoughts, feelings, and needs and to listen carefully)?
3.0[b]	10. Are you less or more likely to have sex because of this course?
4.0	11. If you have sex, would you be less or more likely to use birth control because of this course?
4.0	12. If you have sex, would you be less comfortable or more comfortable using birth control because of this course?
3.4	13. Overall, do you now have less or more respect for yourself because of this course (i.e., do you have better feelings about yourself)?
3.3	14. Are you now less or more satisfied with your social behavior (e.g., going out and forming relationships) because of this course?
3.3	15. Because of this course, are you now less or more satisfied with your current sex life whatever it may be (it may be doing nothing, kissing, petting, or having sex)?
3.5	16. Do you now make worse or better decisions about your social life (e.g., going out and forming relationships) because of this course?
3.4	17. Do you now make worse or better decisions about your physical sexual behavior because of this course?
3.2	18. Do you now get along with your friends worse or better because of this course?

Footnotes to Table 9-8

[a] N=199

Key for Questions 1 to 15:	Key for Questions 16 to 18:
1=much less	1=much worse
2=somewhat less	2=somewhat worse
3=about the same	3=about the same
4=somewhat more	4=somewhat better
5=much more	5=much better

[b] For all questions, except #10, a median greater than 3.0 represents a positive change and a median less than 3.0 represents a negative change. For Question 10, the reverse is true.

CHAPTER 10

PLANNED PARENTHOOD OF SAN ANTONIO SIX DAY SCHOOL PROGRAM

Description of the Program

Background

San Antonio is a sun belt community whose population has more than doubled in the past twelve years. Although it is now one of the ten largest cities in the United States, its population is spread out and feels much more suburban than urban. Some of the population increase has come from Mexican immigration, both legal and illegal. Over half the population is Mexican-American and Catholic. A large percentage of San Antonio is also poor and undereducated, and has large families.

Planned Parenthood of San Antonio (PPSA) has provided sexuality education for fourteen years. They began their efforts in this area when different groups requested speakers to lecture on contraception. At that time, two female volunteers agreed to research the literature and give an appropriate presentation. Their efforts developed into a speakers bureau that remained totally volunteer until 1971 when the first staff person was hired. During the next decade the bureau expanded into an education department with five full and part time staff and three volunteers; the number of presentations increased to more than 1,000 per year; and the one-hour lectures expanded to a six hour program which includes decisionmaking and communication, as well as birth control.

Relations with the Schools and Community

The six day program is taught in the regular classroom, and therefore the major recruitment need is to develop and maintain good relations with the schools so that the schools continue to request the program. The area's schools are divided into 15 autonomous school districts, and in many of these districts the individual principals have considerable autonomy. Thus, policies differ significantly from one school to another.

PPSA has developed excellent relations with the community in a wide variety of ways. Perhaps most important, they give innumerable presentations to many different civic and religious groups. They meet regularly with important members of the community and seek suggestions and advice. Several years ago they formed an advisory committee for the education department. That committee includes teachers, parents, medical personnel, clergymen, community leaders, and media representatives. This committee gives numerous suggestions for improving the program and working with the community. The education staff frequently appear in the media, e.g., on television or radio talk shows or in newspaper articles. All these activities have made people better informed about their program and have enhanced their reputation.

Each year, usually during the Teacher Work Week preceding the opening of schools, PPSA sends a flyer to biology, health, and family living teachers in the middle and high schools. The flyer describes the six day program and serves as an introduction or reminder to the teachers to schedule the program. PPSA tries to provide the program whenever it will best fit into the teachers' curricula. PPSA also revises the program when requested to better meet the needs or policies of the teachers or the schools.

These efforts have been very successful. In recent years the PPSA has presented the program in 12 of the 15 school districts, and as indicated above, the number of presentations has grown dramatically. However, because sexuality education is controversial, and also because sexuality education has not formally become part of the schools' curricula, some principals have temporarily (or even permanently) suspended programs when controversies arose. Such controversies are rare, but they remain distressing.

Philosophy and Goals

One of the major goals of the program is to reduce unintended pregnancy by increasing young people's sexual information and improving their decisionmaking skills. The program recognizes that individuals make sexual decisions without having sufficient factual information and without fully considering either the consequences or their responsibility for those consequences. The six day program provides factual information, gives students the opportunity to make decisions in the classroom and become aware of the consequences.

Program Structure

The six day program includes six one-hour sessions which are designed to be presented on successive days.

Day 1: Introduction. The regular classroom teacher shows the movie, "Are You Ready for Sex?" or "Saying No" and then leads a class discussion with a guide provided by PPSA. If teachers prefer, they show "The Date", "Three Letter Word for Love", or other films depending upon the audience. The films and the accompanying discussion introduce the topic of sexuality to the students and prepare them for the PPSA educator on the following day.

Day 2: Decisions. The PPSA educator uses several activities to emphasize the ideas that everyone makes decisions, some decisions can be difficult, some are influenced by others (e.g., peers, family, and the media), most are better if planned, and the decision to have or not have sex should be a conscious decision rather than an inevitable happening. Students use the decisionmaking process in a planning board exercise or in forced choice situations.

Day 3: Consequences. This session focuses upon unwanted pregnancy and available alternatives. It emphasizes the unhappy aspects of all choices available to someone with an unwanted pregnancy compared to the advantages of planning one's actions beforehand and avoiding unwanted pregnancy. The class breaks into small groups who discuss adolescent marriage, single parenthood, abortion, and adoption. Most students have relatives or friends who have been forced to deal with an unwanted pregnancy and they participate readily in these discussions. The small groups then report their conclusions to the entire class, and there is a class discussion on the issues.

Day 4: Film. The regular classroom teacher shows either "Teenage Father" or "Matter of Respect." The teacher then uses a PPSA discussion guide to lead a discussion on the effects of unwanted pregnancy upon all family members and to present both local and national statistics on unwanted teenage pregnancies.

Day 5: Birth Control. The PPSA educator first emphasizes the probability of becoming pregnant without birth control, the availability of birth control, and the reasons for using and not using birth control. She then briefly discusses reproduction and the different forms of contraception and shows them to the class. Finally, she emphasizes that deciding which method to use should be a conscious and thoughtful decision, just as deciding whether or not to be sexually active should be a conscious and thoughtful decision.

Day 6: Questions and Answers. This session is devoted to answering written anonymous questions that the students have and to reemphasizing important points made in the previous sessions.

Staff Characteristics

The PPSA educators include both full time staff and volunteers. For this evaluation only programs taught by the full time staff were evaluated. The full time staff have Bachelor's or Master's Degrees and have participated in training for professionals one or more times. All of the educators also receive periodic in-house training, supervision, and evaluation.

The classroom teachers' participation in the course is also important because they spend many hours with the students during the entire semester, while the PPSA educators are there for only four hours. This enables the students to discuss questions or problems they may have with their regular teachers later in the semester.

Evaluation of the Effects of the Six Day Program

Summary of the Evaluation Methods

Integrated questionnaires were administered at the beginning of the six day program, at the end of the program, and about three months after the program. These questionnaires included questions about knowledge, attitudes, and behavior. Because students completed the first posttest just five days after completing the pretest, the questions about behavior during the previous month were inappropriate for the first posttest and were excluded.

Because of the short time between the pretest and the 1st posttest, any changes that took place were probably due to the course and not to maturational factors. Thus, we did not use a control group for the pretest/first posttest comparison. However, the length of time between the pretest and second posttest was sufficient for other factors to have affected the students. Thus, questionnaires were administered to both experimental and control groups during the pretest and second posttest administrations. We obtained the control groups in the same and similar schools in the area. Thus, the experimental and control groups are similar in age and racial composition.

During the second posttest, students who took the six day program also completed a course assessment in which they indicated how they felt the course affected them.

Impact upon Knowledge

According to Table 10-1, the course substantially increased knowledge. The mean percentage of correct answers increased from 58 percent to 80 percent and then declined slightly to 77 percent on second posttest. Both the short term and long term increases were statistically significant themselves and also significantly greater than the increase in the control group. Thus, these data strongly indicate that the course increased knowledge about sexuality.

Appropriately, students indicated that they knew somewhat more about sexuality because of the course (Table 10-5).

Impact upon Clarity of Values

Table 10-1 indicates that the course did not produce an increase in clarity of values. There was a significant increase between the pretests and posttests, but the control group also experienced a small increase, and the increase of the experimental group was not significantly greater than that of the control group.

In their course assessments, students claimed that their values were more clear because of the course (Table 10-5).

Impact upon Attitudes

According to Table 10-1, the course increased the students' perceived importance of birth control. This increase was small; it increased from 4.2 to 4.4 by the end of the course and then dropped to 4.3. However, this increase was statistically significant, and it was significantly greater than the small decrease in the control group. It should be noted, however, that the increase in the experimental group might not have been significantly greater than the change in control groups at other sites.

Table 10-1 also indicates that the course had no impact upon attitude toward premarital sex.

The students claim that because of the course, they feel using birth control is much more important (Table 10-5). In fact, they indicated that the course had a greater impact upon their perceived importance of birth control than upon anything else.

Impact upon Skills

Table 10-1 suggests that the course did not have an impact upon decisionmaking, assertiveness, or birth control communication skills. There was a significant increase in sexual decisionmaking skills, but that increase was not significantly greater than the increase in the control group.

Impact upon Comfort with Different Social and Sexual Activities

Table 10-2 indicates that the course did not have an impact upon comfort talking about sex or birth control, comfort having their current sex life, or comfort getting and using birth control. There were significant increases in comfort talking about sex, talking about birth control, and talking with parents about sexuality, but these increases were not quite significantly greater than the changes in the control group. If the control groups had been somewhat larger and the magnitudes had remained the same, these changes would have been significant.

The students indicated that they were not much more comfortable talking about sexuality (Table 10-5).

Impact upon Frequency of Communication

Table 10-3 indicates that the course increased the frequency of conversations about birth control with friends, but did not increase conversations about sex or birth control with others. There were also significant increases in the frequency of conversations about sex and birth control with boyfriends and girlfriends, but these were not quite statistically significant. Once again, if the control group had been somewhat larger and the magnitudes had remained the same, these increases would have been significantly greater than those in the control group.

In their course assessments, students indicate that they do not talk with others about sex or birth control more because of the course (10-5).

Impact upon Sexual Behavior

Table 10-4 strongly indicates that the course did not have any impact upon sexual activity. There were no changes in either the experimental or control groups in the amount of sex or the use of birth control.

In their course assessments, students claimed that they were neither less likely nor more likely to have sex because of the course, but that if they did have sex, they would be far more likely to use birth control and would be far more comfortable using birth control because of the course.

Impact upon Pregnancies

Planned Parenthood staff carefully and laboriously examined all their pregnancy records in their five clinics for the previous seven years. For all teenagers, they coded the date of visit, the teenager's age, school, type of visit, and outcome of pregnancy test, if any. From this data we were able to estimate the number of pregnancies in each school each year.

These data produced close to 1,500 pregnancies for the seven year period. Although this is a large number, it is only a small proportion of all the teenagers in these schools who became pregnant. Thus, the missed pregnancies represent a sizeable source of error. In addition there were a number of problems in collecting the data that undoubtedly contributed additional error. Most of these errors are undoubtedly random and should not substantially bias the results. However, there is one source of error that could substantially bias the results. During its presentations to schools, Planned Parenthood encouraged students to come to Planned Parenthood for birth control and pregnancy tests, if necessary. Thus, teenagers who took a Planned Parenthood course were far more likely to go to Planned Parenthood if they got pregnant than were teenagers who didn't take the course and became pregnant. This bias could obscure a reduction of pregnancies or incorrectly suggest that the Planned Parenthood course increased pregnancies. These data and their validity are more fully described in Chapter 4.

To measure the impact of the course upon pregnancies, we regressed both the number of pregnancies and the percentage of the students who become pregnant upon various measures of sexuality education in the schools. We always controlled for school and year in these regression analyses.

All the results indicate that the program did not have a significant impact upon pregnancies. In none of the runs were the F-ratios significant. As noted above, the data may have been biased so that it may have obscured a reduction in pregnancy. However, the data produced no evidence for the reduction of pregnancies.

Summary of Results

These data support several conclusions:

- The course clearly increased knowledge about sexuality.
- The course probably increased the perceived importance of birth control.
- The pretest/posttest data indicate that the course had little or no impact upon other attitudes, decisionmaking and communication skills, comfort talking about sexuality with most people, conversations with most people, or sexual or contraceptive behavior.
- The pregnancy data suggest that the course had little or no impact upon pregnancies, but this evidence may be biased.
- In their assessments of the course, students state that because of the course they feel birth control is more important, they would be more likely to use birth control if they have sex, and they would be more comfortable using birth control.

The differences between the pretest/posttest data and the course assessments are similar to those found in other sites and are discussed in the last chapter. However, in general, pretest/posttest comparisons are more valid than course assessments.

Table 10-1

Effects of PPSA Six Day Course upon Knowledge, Attitudes, and Skills:
Mean Percent Correct on Pretests, Posttests, and 2nd Posttests;
and Significance Levels for Differences between Pretests and Posttests
and between Experimental and Control Group Changes

			Means[a]			Significance[b]	
Outcome	Group[c]	N	Pre	1st Post	2nd Post	Pre vs 1st or 2nd Post	Change in E-Group[d] vs Change in C-Group
Knowledge	E	332	58.4	80.3		.000	NA
	E	281	58.1		77.0	.000	.000
	C	61	51.5		53.1	NS	
Clarity of Personal Sexual Values	E	303	3.5	3.7		.000	NA
	E	256	3.5		3.7	.000	NS
	C	60	3.4		3.5	NS	
Attitude toward the Importance of Birth Control	E	326	4.2	4.4		.000	NA
	E	273	4.2		4.3	.040	.050
	C	60	4.1		4.0	NS	
Attitude toward Premarital Intercourse	E					NS	NA
	E					NS	NS
	C					NS	
Sexual Decisionmaking Skills	E	Not included in the 1st posttest questionnaire.					
	E	165	3.0		3.2	.002	NS
	C	31	3.1		3.1	NS	
Assertiveness Skills	E	Not included in the 1st posttest questionnaire.					
	E					NS	NS
	C					NS	
Birth Control Communication Skills	E	Not included in the 1st posttest questionnaire.					
	E					NS	NS
	C					NS	

Footnotes to Table 10-1

[a] The mean scores of the knowledge test are the mean percents of correct answers. The means of the clarity of values and the attitudes are based upon five 1-5 Likert type scales. The mean scores of the skills are based upon multi-item indices. Both the attitudes and the skills are scored so that the final scales have a possible range of 1 to 5 and increases represent improvements.

The experimental group completed the pretest at the beginning of the program, first posttests at the end of the program, and second posttests about three to three months later. Because the elapsed time between the pretest and first posttest was so short, there was no control group for the pretest and first posttest. For the pretest and second posttest data there was a control group. The elapsed time between the experimental pretest and second posttest and the control pretest and posttest are about the same. Because some experimental students did not complete the 2nd posttest, the sample size for the 2nd posttest is smaller, and the data are presented on a separate line.

[b] NA means not appropriate because there was no control group for the pretest and first posttest data. NS means not significant at the .05 level. All tests of significance are matched-pairs two-tailed t-tests. Smaller numbers represent smaller probabilities of results having occurred by chance. Thus, .000 is the probability rounded to three digits and represents the highest level of significance. If the probability of results having occurred by chance was greater than .050, then the data were considered not significant and were not included in the table.

[c] E is the experimental group. C is the control group from the same and similar schools in the area.

[d] This column is the significance of the difference between the change in the experimental group and the change in the control group. The change in each group is either the first posttest minus the pretest or the second posttest minus the pretest.

Table 10-2

Effects of PPSA Six Day Course upon Comfort with Different Activities:
Mean Scores on Pretests, Posttests, and 2nd Posttests;
and Significance Levels for Differences between Pretests and Posttests
and between Experimental and Control Group Changes

			Means[a]			Significance[b]	
Outcome	Group[c]	N	Pre	1st Post	2nd Post	Pre vs 1st or 2nd Post	Change in E-Group[d] vs Change in C-Group
Comfort	E	238	2.8	2.9		.019	NA
Talking	E	204	2.8		2.9	.032	NS
about Sex	C	41	2.6		2.5	NS	
Comfort	E	201	2.8	2.9		.000	NA
Talking	E	168	2.8		3.0	.000	NS
about	C	37	2.7		2.6	NS	
Birth Control							
Comfort	E	249	2.3	2.3		NS	NA
Talking with	E	204	2.3		2.5	.020	NS
Parents about	C	44	2.0		2.1	NS	
Sexuality							
Comfort	E					NS	NA
Having	E					NS	NS
Current	C					NS	
Sex Life							
Comfort	E					NS	NA
Getting and	E					NS	NS
Using Birth	C					NS	
Control							

[a] The means are based upon the following key:

Key: 1=very uncomfortable
2=somewhat uncomfortable
3=a little uncomfortable
4=comfortable

This key is the reverse of the key in the questionnaire. The scale was reversed so that larger numbers would represent improvement and be more similar to other scales in the evaluation. See the second paragraph of footnote a in Table 10-1.

[b] See footnote b in Table 10-1.
[c] See footnote c in Table 10-1.
[d] See footnote d in Table 10-1.

Table 10-3

Effects of PPSA Six Day Course upon Frequency of Conversations about Sexuality:
Mean Scores on Pretests and 2nd Posttests;
and Significance Levels for Differences between Pretests and Second Posttests
and between Experimental and Control Group Changes

			Means[a]		Significance[b]	
Outcome	Group[c]	N	Pre	2nd Post	Pre vs 2nd Post	Change in E-Group vs[d] Change in C-Group
Frequency of conversations about sex with parents	E				NS	NS
	C				NS	
Frequency of conversations about sex with friends	E				NS	NS
	C				NS	
Frequency of conversations about sex with boy/girlfriend	E	244	1.4	1.9	.020	NS
	C	50	0.9	0.9	NS	
Frequency of conversations about birth control with parents	E				NS	NS
	C				NS	
Frequency of conversations about birth control with friends	E	250	1.0	1.8	.000	.038
	C	51	0.9	1.1	NS	
Frequency of conversations about birth control with boy/girlfriend	E	247	0.8	1.5	.008	NS
	C	51	0.9	0.9	NS	

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[a] All mean scores are the means of the frequencies for the last month. See the second paragraph of footnote a in Table 10-1.

[b] See footnote b in Table 10-1.

[c] See footnote c in Table 10-1.

[d] See footnote d in Table 10-1.

Table 10-4

Effects of PPSA Six Day Course upon Sexual Intercourse and Use of Birth Control:
Mean Scores on Pretests and 2nd Posttests;
and Significance Levels for Differences between Pretests and Second Posttests
and between Experimental and Control Group Changes

			Means[a]		Significance[b]	
Outcome	Group[c]	N	Pre	2nd Post	Pre vs 2nd Post	Change in E-Group vs[d] Change in C-Group
Ever had sex	E				NS	NS
	C				NS	
Had sex last month	E				NS	NS
	C				NS	
Frequency of sex last month	E				NS	NS
	C				NS	
Frequency of sex without birth control	E				NS	NS
	C				NS	
Frequency of sex with poor birth control	E				NS	NS
	C				NS	
Frequency of sex with effective birth control	E				NS	NS
	C				NS	

[a] For the first two questions, mean scores represent the proportions that have had intercourse. For the remaining questions, mean scores are the means of the actual frequencies. See the second paragraph of footnote a in Table 10-1.

[b] See footnote b in Table 10-1.

[c] See footnote c in Table 10-1.

[d] See footnote d in Table 10-1.

Table 10-5

Student Assessments of the Impact of the PPSA Six Day Course

Median[a]		Question
3.9	1.	Do you know less or more about sexuality because of this course?
3.7	2.	Do you now have less or more understanding of yourself and your behavior because of this course?
3.7	3.	Are your attitudes and values about your own sexual behavior less or more clear because of this course?
4.3	4.	Because of this course, do you now feel that using birth control when people are not ready to have children is less important or more important?
3.1	5.	Do you talk about sexuality (e.g., going out, having sex, birth control, or male and female sex roles) with your friends less or more because of this course?
3.1	6.	Do you talk about sexuality with your boy/girlfriend less or more because of this course?
2.9	7.	Do you talk about sexuality with your parents less or more because of this course?
3.3	8.	When you talk about sexuality with others (such as your friends, boy/girlfriend, and parents) are you less or more comfortable because of this course?
3.4	9.	Do you now talk about sexuality less or more effectively (i.e. are you more able to talk about your thoughts, feelings, and needs and to listen carefully)?
3.2[b]	10.	Are you less or more likely to have sex because of this course?
4.2	11.	If you have sex, would you be less or more likely to use birth control because of this course?
4.1	12.	If you have sex, would you be less comfortable or more comfortable using birth control because of this course?
3.7	13.	Overall, do you now have less or more respect for yourself because of this course (i.e., do you have better feelings about yourself)?
3.4	14.	Are you now less or more satisfied with your social behavior (e.g., going out and forming relationships) because of this course?
3.4	15.	Because of this course, are you now less or more satisfied with your current sex life whatever it may be (it may be doing nothing, kissing, petting, or having sex)?
3.7	16.	Do you now make worse or better decisions about your social life (e.g., going our and forming relationships) because of this course?
3.8	17.	Do you now make worse or better decisions about your physical sexual behavior because of this course?
3.3	18.	Do you now get along with your friends worse or better because of this course?

Footnotes to Table 10-5

[a] N=242

Key for Questions 1 to 15:
1=much less
2=somewhat less
3=about the same
4=somewhat more
5=much more

Key for Questions 16 to 18:
1=much worse
2=somewhat worse
3=about the same
4=somewhat better
5=much better

[b] For all questions, except #10, a median greater than 3.0 represents a positive change and a median less than 3.0 represents a negative change. For Question 10, the reverse is true.

CHAPTER 11

LAKEVIEW CENTERS' LIFE STYLES PROGRAM

Description of the Program

Background of the Program

Lakeview Center was formerly the Community Mental Health Center in Pensacola, Florida. It is a nonprofit organization that provides treatment, research, education, and training in a variety of mental health areas.

The Center and the Life Styles program serve much of Escambia County. That county is in northwest Florida and contains a mixture of urban and rural areas. Pensacola is the only major urban area. Some industry, a large naval base, and agriculture provide the major sources of employment. The county is quite poor and has been designated a federal poverty area. Most of the population is White; about 20 percent is Black.

Lakeview Center developed the Life Styles program in 1977 in response to data indicating that over 60 percent of Florida welfare recipients were teenage parents. The State Department of Health and Rehabilitative Services contracted with Lakeview Center to design and implement an educational and counseling program which would reduce teenage pregnancies. The initial approach was favorably received, but many people believed that it was too narrowly limited to adolescent pregnancy. Consequently, Lakeview Center developed a more comprehensive program that incorporates a wider variety of family and career issues.

Recruitment and Community Relations

The staff has taught the curriculum in a wide variety of settings, e.g., schools, churches, youth groups, groups of deaf youth, groups of problem youth. The Center has been far more successful when providing the program to existing youth groups than when trying to recruit teenagers directly. In order to establish relationships with youth groups, the staff has given numerous presentations on Life Styles to youth serving agencies, civic groups, churches, and other organizations. More conservative groups find Life Styles especially attractive because it covers many topics other than sexuality, because they can select the topics to be covered, and because they can co-lead the sessions. In general, Life Styles has an excellent reputation in the community and youth agencies recommend it to one another.

Course Structure

The structure of the programs varies with the agency; some meet daily, others two or three times per week, others weekly. Normally, sessions last about an hour. The staff encourages the host organization to select most or all of the units in the curriculum. However, they also give the organization the opportunity to select only those units with which they are most comfortable.

Curriculum Goals and Objectives

The curriculum is designed to increase knowledge, enhance desirable attitudes, and improve decisionmaking. It is partially based upon the developmental tasks outlined by Robert Havighurst. These tasks include:

- accepting one's body and using it effectively
- achieving new and more mature relations with age-mates of both sexes
- achieving appropriate masculine or feminine social roles
- desiring and achieving socially responsible behavior
- acquiring a set of values and an ethical system as a guide to behavior
- achieving emotional independence of parents and other adults
- selecting and preparing for an occupation
- achieving economic independence
- preparing for marriage and family life
- developing intellectual skills and concepts necessary for civic competence

Each of the Life Styles units addresses one or more of these tasks.

There are 16 different units, each with its own goal:

Getting Acquainted: To acquaint participants with the Life Styles program.

Building Esteem: To increase participants' awareness of the development of esteem and its relationship to decisionmaking on sexuality issues.

Value Awareness: To increase awareness of the importance of values in decisionmaking.

Effective Communication: To enhance participants' communication skills.

Becoming an Adolescent: To increase knowledge about the physical and emotional changes which occur during adolescence.

Influence on Sexuality: To increase understanding of the orgins of sexual attitudes, how sexuality affects behavior, and why participants feel the way they do about themselves.

Decision-making: To improve decisionmaking skills.

Exploring Relationships: To improve the quality of adolescent relationships.

Love and Marriage: To increase understanding of love and marriage.

Adolescent Parenthood: To increase understanding of the risks and sacrifices of adolescent parenthood.

The Price You Pay as a Parent: To increase understanding of the financial and emotional costs of parenthood.

The Needs of the Child: To increase understanding of the needs of children and ways of meeting those needs.

Rights of the Child: To increase understanding of the rights of children and methods of determining when those rights have been violated.

Looking Toward the Future: To increase understanding of various life choices and their consequences and to develop skills in planning a productive future.

Methods of Birth Control: To increase knowledge of the different methods of birth control and their effectiveness.

Sexually Transmitted Diseases: To increase knowledge of the types of sexually transmitted diseases and their effects.

Most of these units include didactic presentations, structured exercises, films or filmstrips, small group discussions, and role-playing.

Teacher Characteristics

Most sessions are taught by male and female teams. However, occasional scheduling problems prevent a coed team from teaching. A number of different people have taught the Life Styles program. Most have bachelors or masters degrees in health education, psychology, social work, child development, or school administration. All the staff has extensive training in human sexuality and group processing skills.

Although the teaching styles of the teachers vary, most of them quickly develop rapport with the teenagers. They also create a casual and comfortable classroom environment in which it appears relatively easy for students to ask questions or express their opinions.

Evaluation of the Effects of the Life Styles Program

Summary of the Evaluation Methods

Lakeview Center had considerable difficulty obtaining the required permission for different groups of young people to complete the questionnaires. Consequently, the resulting sample includes an unusually large proportion of young people who had gotten into trouble. For example, many of them were special groups of delinquent youths that were participating in a number of special programs. Some of them were in residential programs.

Questionnaires were administered to participants at the beginning and end of the program. They were also administered to other similar young people in the same communities. Questionnaires were administered to young people during a two year period. It was not feasible to administer questionnaires to members of the experimental and control groups at the same time, but the length of time between the pretest and posttest was about the same for all groups.

Despite our efforts to make the evaluation as valid as possible, these data are clearly less valid than the data for other sites. There were simply too many factors beyond our control to make the design as tight as desired. For example, some people dropped out of the program early; others joined it late. We did include only those questionnaires for which we could match pretests and posttests, but the matching in this site was not as certain as in the other sites.

Impact upon Knowledge

Table 11-1 indicates that the course did have a significant impact upon knowledge. There was a significant increase between the pretest and posttest scores and this increase was significantly greater than that of the control group. This finding is encouraging. It should be noted, however, that there were no delayed posttests and thus it is not possible to determine whether this increase remained beyond the end of the course.

This increase is consistent with the participants′ assessment of the impact of the program. Table 11-5 indicates that the participants believed that the course did increase their knowledge. In fact, the item about increase in knowledge had a higher median than any other item.

Impact upon Attitudes

Table 11-1 also suggests that the program did not have any significant impact upon clarity of personal values, attitude toward the importance of birth control, or attitude toward premarital sex. There were no significant changes between the pretests and posttests.

In their course assessments, participants indicated that their values were somewhat more clear and to a lesser extent that they believed birth control was more important. However, these medians are not as large as in the other sites (medians = 3.8 and 3.5, Table 11-5).

Impact upon Skills

Table 11-1 also suggests that the course had no significant impact upon decisionmaking, assertiveness, or birth control communication skills. There were no significant changes between the pretests and posttests.

This is roughly consistent with the course assessments in which the participants indicated that there were improvements in these areas, but that the improvements were small (Table 11-5).

Impact upon Comfort with Different Social and Sexual Activities

Table 11-2 indicates that the course did not have any significant impact upon comfort with different activities. In none of them was there any significant change.

Again, these data are consistent with the course assessments which indicate that the program had little or no impact (Table 11-5).

Impact upon Frequency of Communication

According to the data in Table 11-3 the course did not have a significant impact upon the frequency of conversations about either sex or birth control with parents, friends, or girlfriends or boyfriends. There was an increase in the number of conversations with friends about birth control, but this increase was not significantly greater than the increase in the control group.

In their course assessments, participants also indicated that the course had no impact upon conversations (Table 11-5).

Impact upon Sexual Behavior

According to Table 11-4, the course did not have a significant impact upon whether or not the participants had ever had sex, nor did it have an impact upon the number of acts of intercourse the entire group had during the previous month.

However, according to these data, the change in the experimental group in the number of people who had sex during the previous month was significantly greater than the corresponding change in the control group. This significant difference is not due to a significant increase in the experimental group. In fact, the experimental did have an increase, but this increase was not significant. Instead, the difference between the two groups is due primarily to a large decrease in the number of people who had sex in the control group. This decrease is difficult to explain. In general, as young people grow older, larger percentages of them have sex each month, not smaller percentages. The decline in the control group may have been caused by many of the posttests being given during finals week, or some other unknown explanation. Whatever factor affected the control group would not necessarily have affected the experimental group because they completed questionnaires at different times. If any of the other control groups had been used instead of this control group, the difference between the experimental and control group would not have been significant. Thus, it would not be prudent to conclude that the course increased the percentage of people who had sex during the previous month, even though the results are statistically significant.

Table 11-4 also indicates that the program significantly reduced the frequency of use of effective birth control. In this case the change was in the experimental group and not in the control group, indicating that the course may have produced this effect. However, the pretest/posttest change was just barely significant ($p = .041$).

In their course assessments, participants indicated that they would be slightly less likely to have sex because of the course and that they would be slightly more likely to use birth control.

Discussion and Summary of Results

These data support several conclusions:

- Both the pretest/posttest data and the course assessments indicate that the course significantly increased knowledge about sexuality during the course.
- The pretest/posttest data indicate that the course did not have a measureable impact upon clarity of personal values, attitudes, skills, comfort with different activities, frequency of conversations about sexuality, the percentage of people who had ever had sex, frequency of sex, or frequency of sex with either no method or poor methods of birth control. For the most part, the course assessments also indicate the course had little impact in these areas.
- The pretest/posttest data also indicate that the course may have reduced the frequency of sex with effective forms of birth control during the course.

These data indicate that the Life Styles program was not very effective. However, it should be remembered that these data are less valid than those in other sites, and that many of the participants were delinquent youths in residential settings. These youths are particularly difficult to reach, and the failure to affect them does not necessarily mean that the program would not be effective in other settings.

Some other programs were also less effective than desired. Possible reasons for their apparent ineffectiveness are discussed in the last chapter.

Table 11-1

Effects of Life Styles upon Knowledge, Attitudes, and Skills:
Mean Percent Correct on Pretests and Posttests;
and Significance Levels for Differences between Pretests and Posttests
and between Experimental and Control Group Changes

Outcome	Group[c]	N	Means[a]		Significance[b]	
			Pre	Post	Pre vs Post	Change in E-Group vs[d] Change in C-Group
Knowledge	E	134	52.3	62.2	.000	.000
	C	118	44.4	43.8	NS	
Clarity of Personal Sexual Values	E				NS	NS
	C				NS	
Attitude toward the Importance of Birth Control	E				NS	NS
	C				NS	
Attitude toward Premarital Sex	E				NS	NS
	C				NS	
Sexual Decisionmaking Skills	E				NS	NS
	C				NS	
Assertiveness Skills	E				NS	NS
	C				NS	
Birth Control Communication Skills	E				NS	NS
	C				NS	

Footnotes to Table 11-1

[a] The mean scores of the knowledge test are the mean percents of correct answers. The means of the clarity of values and the attitudes are based upon five 1-5 Likert type scales. The mean scores of the skills are based upon multi-item indices. Both the attitudes and the skills are scored so that the final scales have a possible range of 1 to 5 and increases represent improvements.

The experimental group completed the pretest at the beginning of the program and the posttests at the end of the program. The control groups completed the questionnaires at different times, but the lengths of time between the pretests and posttests for the experimental and control groups were the same.

[b] NA means not appropriate because there was no control group for the pretest and first posttest data. NS means not significant at the .05 level. All tests of significance are matched-pairs two-tailed t-tests. Smaller numbers represent smaller probabilities of results having occurred by chance. Thus, .000 is the probability rounded to three digits and represents the highest level of significance. If the probability of results having occurred by chance was greater than .050, then the data were considered not significant and were not included in the table.

[c] E is the experimental group. C is the control group of similar young people in the same area.

[d] This column is the significance of the difference between the change in the experimental group and the change in the control group. The change in each group is the posttest minus the pretest.

Table 11-2

Effects of Life Styles upon Comfort with Different Activities: Mean Scores on Pretests and Posttests; and Significance Levels for Differences between Pretests and Posttests and between Experimental and Control Group Changes

			Means[a]		Significance[b]	
Outcome	Group[c]	N	Pre	Post	Pre vs Post	Change in E-Group vs[d] Change in C-Group
Comfort Talking about sex	E				NS	NS
	C				NS	
Comfort Talking about Birth Control	E				NS	NS
	C				NS	
Comfort Talking with Parents about Sexuality	E				NS	NS
	C				NS	
Comfort Having Current Sex Life	E				NS	NS
	C				NS	
Comfort Getting and Using Birth Control	E				NS	NS
	C				NS	

[a] The means are based upon the following key:

Key: 1=very uncomfortable
2=somewhat uncomfortable
3=a little uncomfortable
4=comfortable

This key is the reverse of the key in the questionnaire. The scale was reversed so that larger numbers would represent improvement and be more similar to other scales in the evaluation. See the second paragraph of footnote a in Table 11-1.

[b] See footnote b in Table 11-1.
[c] See footnote c in Table 11-1.
[d] See footnote d in Table 11-1.

Table 11-3

Effects of Life Styles upon Frequency of Conversations about Sexuality:
Mean Scores on Pretests and Posttests;
and Significance Levels for Differences between Pretests and Posttests
and between Experimental and Control Group Changes

			Means[a]		Significance[b]	
Outcome	Group[c]	N	Pre	Post	Pre vs Post	Change in E-Group vs[d] Change in C-Group
Frequency of conversations about sex with parents	E				NS	NS
	C				NS	
Frequency of conversations about sex with friends	E				NS	NS
	C				NS	
Frequency of conversations about sex with boy/girlfriend	E				NS	NS
	C				NS	
Frequency of conversations about birth control with parents	E				NS	NS
	C				NS	
Frequency of conversations about birth control with friends	E	107	1.2	2.5	.020	NS
	C	109	3.2	3.4	NS	
Frequency of conversations about birth control with boy/girlfriend	E				NS	NS
	C				NS	

[a] All mean scores are the means of the frequencies for the last month. See the second paragraph of footnote a in Table 11-1.

[b] See footnote b in Table 11-1.

[c] See footnote c in Table 11-1.

[d] See footnote d in Table 11-1.

Table 11-4

Effects of Life Styles upon Sexual Intercourse and Use of Birth Control:
Mean Scores on Pretests and Posttests; and Significance Levels for Differences between Pretests and Posttests and between Experimental and Control Group Changes

			Means[a]		Significance[b]	
Outcome	Group[c]	N	Pre	Post	Pre vs Post	Change in E-Group vs[d] Change in C-Group
Ever had sex	E				NS	NS
	C				NS	
Had sex last month	E	122	.55	.64	NS	.000
	C	116	.66	.45	.000	
Frequency of sex last month	E				NS	NS
	C				NS	
Frequency of sex without birth control	E				NS	NS
	C				NS	
Frequency of sex with poor birth control	E				NS	NS
	C				NS	
Frequency of sex with effective birth control	E	111	1.5	0.9	.041	.028
	C	116	1.6	1.9	NS	

[a] For the first two questions, mean scores represent the proportions that have had intercourse. For the remaining questions, mean scores are the means of the actual frequencies. See the second paragraph of footnote a in Table 11-1.

[b] See footnote b in Table 11-1.

[c] See footnote c in Table 11-1.

[d] See footnote d in Table 11-1.

Table 11-5

Student Assessments of the Impact of Life Styles

Median[a]	Question
3.9	1. Do you know less or more about sexuality because of this course?
3.4	2. Do you now have less or more understanding of yourself and your behavior because of this course?
3.8	3. Are your attitudes and values about your own sexual behavior less or more clear because of this course?
3.5	4. Because of this course, do you now feel that using birth control when people are not ready to have children is less important or more important?
3.1	5. Do you talk about sexuality (e.g., going out, having sex, birth control, or male and female sex roles) with your friends less or more because of this course?
3.1	6. Do you talk about sexuality with your boy/girlfriend less or more because of this course?
2.9	7. Do you talk about sexuality with your parents less or more because of this course?
3.2	8. When you talk about sexuality with others (such as your friends, boy/girlfriend, and parents) are you less or more comfortable because of this course?
3.4	9. Do you now talk about sexuality less or more effectively (i.e. are you more able to talk about your thoughts, feelings, and needs and to listen carefully)?
2.8[b]	10. Are you less or more likely to have sex because of this course?
3.4	11. If you have sex, would you be less or more likely to use birth control because of this course?
3.3	12. If you have sex, would you be less comfortable or more comfortable using birth control because of this course?
3.5	13. Overall, do you now have less or more respect for yourself because of this course (i.e., do you have better feelings about yourself)?
3.1	14. Are you now less or more satisfied with your social behavior (e.g., going out and forming relationships) because of this course?
3.3	15. Because of this course, are you now less or more satisfied with your current sex life whatever it may be (it may be doing nothing, kissing, petting, or having sex)?
3.5	16. Do you now make worse or better decisions about your social life (e.g., going out and forming relationships) because of this course?
3.3	17. Do you now make worse or better decisions about your physical sexual behavior because of this course?
3.4	18. Do you now get along with your friends worse or better because of this course?

Footnotes to Table 11-5

[a] N=20

Key for Questions 1 to 15:	Key for Questions 16 to 18:
1=much less	1=much worse
2=somewhat less	2=somewhat worse
3=about the same	3=about the same
4=somewhat more	4=somewhat better
5=much more	5=much better

[b] For all questions, except #10, a median greater than 3.0 represents a positive change and a median less than 3.0 represents a negative change. For Question 10, the reverse is true.

CHAPTER 12

FAMILY GUIDANCE CENTER CONFERENCES

Description of the Program

The conferences of the Family Guidance Center in St. Joseph, Missouri are very similar to its five day program, except that the activities are covered in one full school day, instead of being divided over five days. To avoid repetition, the following description of the Family Guidance Center is abreviated: Chapter 9 provides a fuller description of the Center, the counties it services, and some of the activities in the curriculum; Chapter 15 discusses its parent/child groups.

Background

The Family Guidance Center is a community mental health center which provides a variety of counseling and family planning clinic services to residents of nine rural counties in northwest Missouri. The Center provides a wide variety of sexuality and family life programs to schools, other organizations, and parent/child groups.

Prior to the Family Guidance Center conferences and five day courses, sexuality education in the schools was scarce and lacked consistency. A few teachers covered a few topics, but this coverage was not well integrated, and many students did not receive it. The Family Guidance Center offered the schools a short, but nevertheless more complete and better integrated program. It is taught to high school students.

Principles and Goals

The conference is based upon several principles which are shared with the parents and school authorities. These are the same as those for the five day course.

- Sexuality is an integral part of each person's self from birth to death.
- Sexuality education is an ongoing process, spanning the entire life cycle.
- People have a need for accurate information about sexuality.
- Interpersonal communication is a vital component of developing a healthy sexuality.
- People are directed by a set of personal values, beliefs, and feelings that are uniquely their own.
- There is a need for educational programs to promote the general mental health of all people.
- These programs and services should be available to all persons, regardless of their race, creed, origin, sex, age, social class, or personal belief.

Because the conference is short, its goals are basic:

- To increase the students' knowledge about sexuality.
- To promote an awareness of the risks and consequences of teenage pregnancy and sexually transmitted diseases.
- To increase the students' awareness of community service agencies, such as public health clinics and family planning clinics.
- To increase the students' feelings of self-worth as sexual people.
- To encourage more meaningful discussion about issues involving sexuality between students and their parents, friends, and girlfriends or boyfriends.
- To reduce unintended pregnancy.

Course Structure and Activities

The conference lasts for six to seven hours during the school day. Although it varies, it roughly follows the following schedule:

8:30 Introduction to the course
8:45 Activity: "What teens want or need to know about sex?"
9:10 Discussion with information posters and handout: anatomy and physiology
9:30 Trigger Film: "What's to Understand?"
9:40 Discussion: dating

10:00 Break

10:10 Film: "Are You Ready for Sex?"
10:35 Discussion: values and decisionmaking about having sex, peer pressure
11:10 Discussion: contraception -- methods and responsibility
11:45 Question Box: get questions

12:00 Lunch

12:45 Question Box: answer questions
1:00 Activity: "STD Handshake"
1:10 Discussion: sexually transmitted diseases

1:25 Break

1:40 Film: "Teenage Father"
2:10 Discussion: Teenage pregnancy
3:00 Wrap-up

These activities are more fully described in Chapter 9 in the discussion of the five day course.

Teacher Characteristics

The teachers, Lynn Peterson and Bob Linebarger, are the same as for the five day course. They appear to be excellent teachers, well trained, knowledgeable about the topic, warm, enthusiastic, full of humor, sensitive, and concerned. Both of them relate exceptionally well to young people as well as to their parents.

Developing Relationships with the Schools and Parents

As discussed in Chapter 9, the Family Guidance Center relies upon a variety of mechanisms to develop relationships with schools and parents: it offers effective evening programs for parents and children together; it works with many nonschool organizations such as churches and Girls Clubs; it sends an informative newsletter each fall to many schools, other organizations, and parents; its staff sometimes appear on radio talk shows. These involvements in the community have earned it an excellent reputation and provide word of mouth contacts.

After establishing an initial contact with the schools, the Center meets formally with the appropriate school administrator and more fully describes the conference. In some schools they receive formal approval from the superintendent or school board.

In all schools students must receive parental consent before they can participate in the conference. In most schools the Family Guidance Center sends home information about the conference and invites the parents to attend a meeting about the course. This meeting helps inform the parents and relieves any anxieties.

Student Evaluation of the Conferences

Students gave high ratings to the topics covered in the conference, its organization and format, and its overall quality. Medians were 4.6, 4.6, and 4.7 respectively (Table 12-1).

Due to an administrative error, the students did not rate the characteristics of the teachers or the conference environment. However, the same teachers taught both the five day school program and these conferences and they taught them in a similar manner. The students in the five day program gave the teachers and the environment very high ratings, and the conference participants would have probably given similar ratings. (As noted below, participants in the five day course and the conferences gave nearly identical assessments of the impact of the program.)

Evaluation of the Effects of the Conferences

Summary of the Evaluation Methods

Conference participants completed questionnaires at the beginning of the conference (pretests), at the end of the conference (first postests), and about three to five months after the conference (second posttests). The pretests and second posttests included all the questions on the integrated questionnaire measuring knowledge, attitudes, and behavior; the first posttests included only those questions measuring traits that might have changed during the day (e.g. knowledge and attitudes, but not behavior).

There was relatively little need for a control group for the pretests and first posttests, because any changes that occurred during the day were probably due to participation in the conference. There was, however, a need for a control group for the pretest and second posttest data. It was not possible to obtain a control group in the same areas, and consequently, we used a control group from another site that best matched the conference participants, namely, the Dos Pueblos control group in Santa Barbara, California. Both groups have roughly similar age distributions, and racial and social-economic backgrounds. Moreover, the length of time between the pretests and second posttests for the conference participants was about the same as the length of time between the comparable pretests and posttests for the control group.

Impact upon Knowledge

According to Table 12-2, the conference increased knowledge. There were statistically significant increases between the pretest and posttest, between the pretest and second posttest, and between the gain in the conference participants and the gain in the control group. The data indicate that the participants increased their knowledge by about 18 percentage points, and then forgot about 3 percentage points by the second posttest.

Consistent with this data, the participants claimed in their conference assessments that they knew more about sexuality because of the conference (Table 12-6).

Impact upon Clarity of Values

Table 12-2 also indicates that the conference increased the clarity of personal sexual values. Clarity increased significantly between the pretests and first posttests and remained at that higher level until the second posttests several months later. There was a slight increase in clarity in the control group, but the increase in clarity of the conference participants was significantly larger.

In their course assessments, participants claim that their values are only a little more clear because of the course (Table 12-6).

Impact upon Attitudes

According to Table 12-6, the conference did not have an impact upon attitudes toward the importance of birth control or premarital sex. Between the pretest and second posttest, there was a slight change in attitude toward premarital sex, but it was not significantly different from that of the control group.

In contrast, the participants believed that because of the conference, they did feel that birth control was somewhat more important (Table 12-6).

Impact upon Skills

Table 12-2 indicates that the conference did not increase assertiveness skills or birth control communication skills, but did increase significantly sexual decisionmaking skills. The increase, however, was small and just barely significant.

Participants thought that the conference had only a small, but positive impact upon their decisionmaking (Table 12-6).

Impact upon Comfort with Different Social and Sexual Activities

Table 12-3 indicates that the program increased comfort talking about sex by the second posttest. There was a small, but significant gain, and that gain was significantly greater in the experimental group than in the control group.

The conference did not appear to have other effects upon comfort. There were significant increases in comfort talking about birth control and talking with parents about sexuality, but these gains were not significantly greater than the gains in the control group.

There were no changes in comfort with their current sex life nor in getting and using birth control.

In the conference assessments, participants claimed that they were not much more comfortable talking with others about sex because of the course (Table 12-6). They did, however, claim that they would be somewhat more comfortable using birth control if they have sex because of the course. The inconsistency between this claim and the pretest/posttest data may be due to the fact that many of the students are not sexually active.

Impact upon Frequency of Communication

Table 12-4 indicates that the conference did not have any impact upon the numbers of conversations about sex or birth control with parents, friends, or boyfriends or girlfriends. There was an increase in the number of conversations with boyfriends or girlfriends about birth control, but the control group had a similar increase.

This is consistent with their conference assessments which also indicate that participants did not have much increase in communication.

Impact upon Sexual Behavior

Table 12-5 indicates that the course increased the percentage of students who had sex the previous month and also their use of effective kinds of birth control. Although these increases are statistically significant and the increase in the sexuality students is greater than the increase in the control group, these figures are probably misleading because this particular control group is most unusual in not indicating any increase in sexual activity. When the sexuality students are compared separately with each of the other control groups, they are not statistically significantly different from any of the control groups in either increase in frequency of behavior or use of more effective forms of birth control. That is, the sexuality students and all the other control groups exhibited approximately equal increases in sexual activity and use of effective forms of birth control. Thus, this particular table is probably misleading, and the more prudent conclusion is that the conference did not have an impact upon behavior.

In their conference assessments, participants claim that they are neither less nor more likely to have sex because of the course (median = 3.0, Table 12-6), but they are more likely to use birth control if they have sex (median = 4.0).

Summary of the Results

These data support several conclusions:

- The participants gave high overall ratings to the conferences.
- The pretest/posttest data indicate that the conferences increased both knowledge and clarity of personal values and may have increased sexual decisionmaking skills and comfort talking about sex.
- The pretest/posttest data indicate that the conferences did not affect attitudes toward birth control or premarital sex, communication skills, comfort with many activities, frequency of communication about sexuality, or sexual or contraceptive behavior.
- The participants' assessments of the impact of the conferences indicate that because of the conference, they were neither less likely nor more likely to have sex, but they felt birth control was more important, and they were more likely to use birth control and would feel more comfortable using birth control if they had sex.

The differences between the pretest/posttest data and the conference assessments are similar to those in other sites and are discussed in the last chapter. However, pretest/posttest data are generally considered more valid than assessment data.

Relative Effectiveness of the Five Day Format and the Conference Format

Because the five day courses and the conferences have the same basic curriculum, the same teachers, and similar participants, comparing the relative effectiveness of the two formats is appropriate.

In their overall summaries, the participants gave the organization and format of the five day program a rating of 4.1, whereas the conference participants rated format 4.6. The overall ratings were very similar (4.5 and 4.7). (See Tables 9-3 and 12-1).

The students' assessments of the five day format were very similar to those of the conferences. Many of the comparable median ratings were identical; a couple differed slightly, but not significantly. Neither was better overall than the other.

Finally, the pretest/posttest data suggest the two different formats had similar effects; both had significant effects upon knowledge, clarity of values, and comfort talking about sex. Other effects were very similar or not significantly different.

In sum, these data strongly indicate that the two formats are equally effective.

Table 12-1

Student Summary Evaluations of the Family Guidance Center Conference in the Schools[a]

Median	Question
4.6	What is your evaluation of the topics covered in the course?
4.6	What is your evaluation of the organization and format of the program (e.g., length, location, and time)?
4.7	What is your evaluation of the overall program?

[a] N=127

Key:
1=very poor
2=poor
3=average
4=good
5=excellent

Table 12-2

Effects upon Knowledge, Attitudes, and Skills of the Family Guidance Center Conference in the Schools:

Mean Percent Correct on Pretests, Posttests, and 2nd Posttests;
and Significance Levels for Differences between Pretests and Posttests
and between Experimental and Control Group Changes

			Means[a]			Significance[b]	
Outcome	Group[c]	N	Pre	1st Post	2nd Post	Pre vs 1st or 2nd Post	Change in E-Group[d] vs Change in C-Group
Knowledge	E	265	63.4	81.1		.000	NA
	E	222	62.6		77.7	.000	.000
	C	65	68.3		72.5	NS	
Clarity of Personal Sexual Values	E	202	3.4	3.7		.000	NA
	E	202	3.4		3.7	.000	.005
	C	57	3.8		3.9	NS	
Attitude toward the Importance of Birth Control	E					NS	NA
	E					NS	NS
	C					NS	
Attitude toward Premarital Intercourse	E	252	2.9	2.9		NS	NA
	E	210	3.0		2.9	.005	NS
	C	59	2.8		2.9	NS	
Sexual Decisionmaking Skills	E	Not included in the 1st posttest questionnaire.					
	E	91	3.0		3.2	.030	.039
	C	23	3.6		3.6	NS	
Assertiveness Skills	E	Not included in the 1st posttest questionnaire.					
	E					NS	NS
	C					NS	
Birth Control Communication Skills	E	Not included in the 1st posttest questionnaire.					
	E	71	3.1		3.5	.016	NS
	C	9	3.0		3.1	NS	

Footnotes to Table 12-2

[a] The mean scores of the knowledge test are the mean percents of correct answers. The means of the clarity of values and the attitudes are based upon five 1-5 Likert type scales. The mean scores of the skills are based upon multi-item indices. Both the attitudes and the skills are scored so that the final scales have a possible range of 1 to 5 and increases represent improvements.

The experimental group completed the pretest at the beginning of the program, first posttests at the end of the program, and second posttests about three to four months later. Because the elapsed time between the pretest and first posttest was so short, there was no control group for the pretest and first posttest. For the pretest and second posttest data there was a control group. The elapsed time between the experimental pretest and second posttest and the control pretest and posttest are about the same. Because some experimental students did not complete the 2nd posttest, the sample size for the 2nd posttest is smaller, and the data are presented on a separate line.

[b] NA means not appropriate because there was no control group for the pretest and first posttest data. NS means not significant at the .05 level. All tests of significance are matched-pairs two-tailed t-tests. Smaller numbers represent smaller probabilities of results having occurred by chance. Thus, .000 is the probability rounded to three digits and represents the highest level of significance. If the probability of results having occurred by chance was greater than .050, then the data were considered not significant and were not included in the table.

[c] E is the experimental group. C is the control group from Dos Pueblos High School.

[d] This column is the significance of the difference between the change in the experimental group and the change in the control group. The change in each group is either the first posttest minus the pretest or the second posttest minus the pretest.

Table 12-3

Effects upon Comfort with Different Activities of the Family Guidance Center Conference in the Schools:

Mean Scores on Pretests, Posttests, and 2nd Posttests;
and Significance Levels for Differences between Pretests and Posttests
and between Experimental and Control Group Changes

			Means[a]			Significance[b]	
Outcome	Group[c]	N	Pre	1st Post	2nd Post	Pre vs 1st or 2nd Post	Change in E-Group[d] vs Change in C-Group
Comfort	E	159	2.6	2.6		NS	NA
Talking	E	117	2.6		2.9	.000	.050
about sex	C	34	2.6		2.7	NS	
Comfort	E	124	2.6	2.6		NS	NA
Talking about	E	96	2.7		2.8	.030	NS
Birth Control	C	23	2.6		2.8	NS	
Comfort	E	147	2.0	2.0		NS	NA
Talking with	E	136	2.0		2.2	.011	NS
Parents about Sexuality	C	47	2.3		2.3	NS	
Comfort	E					NS	NA
Having	E					NS	NS
Current Sex Life	C					NS	
Comfort	E					NS	NA
Getting and	E					NS	NS
Using Birth Control	C					NS	

[a] The means are based upon the following key:

Key: 1=very uncomfortable
2=somewhat uncomfortable
3=a little uncomfortable
4=comfortable

This key is the reverse of the key in the questionnaire. The scale was reversed so that larger numbers would represent improvement and be more similar to other scales in the evaluation. See the second paragraph of footnote a in Table 12-2.

[b] See footnote b in Table 12-2.
[c] See footnote c in Table 12-2.
[d] See footnote d in Table 12-2.

Table 12-4

Effects upon Frequency of Conversations about Sexuality of the Family Guidance Center Conference in the Schools:

Mean Scores on Pretests and 2nd Posttests;
and Significance Levels for Differences between Pretests and Second Posttests
and between Experimental and Control Group Changes

			Means[a]		Significance[b]	
Outcome	Group[c]	N	Pre	2nd Post	Pre vs 2nd Post	Change in E-Group vs[d] Change in C-Group
Frequency of conversations about sex with parents	E				NS	NS
	C				NS	
Frequency of conversations about sex with friends	E				NS	NS
	C				NS	
Frequency of conversations about sex with boy/girlfriend	E				NS	NS
	C					
Frequency of conversations about birth control with parents	E					NS
	C				NS	
Frequency of conversations about birth control with friends	E				NS	NS
	C				NS	
Frequency of conversations about birth control with boy/girlfriend	E	195	0.9	1.4	.044	NS
	C	60	0.9	1.6	NS	

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[a] All mean scores are the means of the frequencies for the last month. See the second paragraph of footnote a in Table 12-2.

[b] See footnote b in Table 12-2.

[c] See footnote c in Table 12-2.

[d] See footnote d in Table 12-2.

Table 12-5

Effects upon Sexual Intercourse and Use of Birth Control
of the Family Guidance Center Conference in the Schools:
Mean Scores on Pretests and 2nd Posttests;
and Significance Levels for Differences between Pretests and Second Posttests
and between Experimental and Control Group Changes

			Means[a]		Significance[b]	
Outcome	Group[c]	N	Pre	2nd Post	Pre vs 2nd Post	Change in E-Group vs[d] Change in C-Group
Ever had sex	E	213	.36	.40	.039	NS
	C	63	.14	.16	NS	
Had sex last month	E	211	.18	.23	.028	.028
	C	63	.11	.11	NS	
Frequency of sex last month	E	211	0.8	1.4	.015	NS
	C	60	0.6	0.8	NS	
Frequency of sex without birth control	E				NS	NS
	C				NS	
Frequency of sex with poor birth control	E				NS	NS
	C				NS	
Frequency of sex with effective birth control	E	211	0.4	0.9	.022	.045
	C	60	0.6	0.5	NS	

[a] For the first two questions, mean scores represent the proportions that have had intercourse. For the remaining questions, mean scores are the means of the actual frequencies. See the second paragraph of footnote a in Table 12-2.

[b] See footnote b in Table 12-2.

[c] See footnote c in Table 12-2.

[d] See footnote d in Table 12-2.

Table 12-6

Student Assessments of the Impact of the Family Guidance Center Conference in the Schools

Median[a]	Question
3.7	1. Do you know less or more about sexuality because of this course?
3.4	2. Do you now have less or more understanding of yourself and your behavior because of this course?
3.4	3. Are your attitudes and values about your own sexual behavior less or more clear because of this course?
4.0	4. Because of this course, do you now feel that using birth control when people are not ready to have children is less important or more important?
3.1	5. Do you talk about sexuality (e.g., going out, having sex, birth control, or male and female sex roles) with your friends less or more because of this course?
3.1	6. Do you talk about sexuality with your boy/girlfriend less or more because of this course?
3.0	7. Do you talk about sexuality with your parents less or more because of this course?
3.2	8. When you talk about sexuality with others (such as your friends, boy/girlfriend, and parents) are you less or more comfortable because of this course?
3.2	9. Do you now talk about sexuality less or more effectively (i.e. are you more able to talk about your thoughts, feelings, and needs and to listen carefully)?
3.0[b]	10. Are you less or more likely to have sex because of this course?
4.0	11. If you have sex, would you be less or more likely to use birth control because of this course?
4.0	12. If you have sex, would you be less comfortable or more comfortable using birth control because of this course?
3.3	13. Overall, do you now have less or more respect for yourself because of this course (i.e., do you have better feelings about yourself)?
3.2	14. Are you now less or more satisfied with your social behavior (e.g., going out and forming relationships) because of this course?
3.1	15. Because of this course, are you now less or more satisfied with your current sex life whatever it may be (it may be doing nothing, kissing, petting, or having sex)?
3.3	16. Do you now make worse or better decisions about your social life (e.g., going out and forming relationships) because of this course?
3.3	17. Do you now make worse or better decisions about your physical sexual behavior because of this course?
3.1	18. Do you now get along with your friends worse or better because of this course?

Footnotes to Table 12-6

[a] N=125

Key for Questions 1 to 15:

1=much less
2=somewhat less
3=about the same
4=somewhat more
5=much more

Key for Questions 16 to 18:

1=much worse
2=somewhat worse
3=about the same
4=somewhat better
5=much better

[b] For all questions, except #10, a median greater than 3.0 represents a positive change and a median less than 3.0 represents a negative change. For Question 10, the reverse is true.

CHAPTER 13

PLANNED PARENTHOOD LEAGUE OF MASSACHUSETTS CONFERENCES

Description of the Program

Overview

The Planned Parenthood League of Massachusetts (PPLM) resembles other Planned Parenthood affiliates in that it provides information, education programs, and counseling services to the public. However, it differs from other affiliates in that it serves the entire state of Massachusetts, and until 1982 did not offer any clinic services.

Since 1980 PPLM has developed and organized a series of one day conferences for teenagers. These conferences entitled, MAKING CHOICES, dealt with a variety of health issues, but gave most attention to sexual issues. Other organizations working directly with youth co-sponsored all the conferences and typically played a major role in recruiting the teenagers.

These conferences were most innovative; they included presentations by local celebrities, improvisational skits about sexuality performed by professionally trained teenagers, discussion sessions led by peers and professionals, and health exhibits.

PPLM continues to refine and organize these conferences, but this project evaluated only the first six conferences.

Site Selection

PPLM held conferences in six different suburban and urban locations distributed throughout Massachusetts. Specifically, they were held at:

- Boston City Hospital
- Brookline High School
- St Andrews Episcopal Church in Framingham
- Faith United Church in Springfield
- St Stephens and the Second Congregational Church in Cohasset
- Boston University

All of the settings included a large hall or auditorium in which everyone could be seated and several separate rooms for group meetings. In those settings where the different rooms were both near one another and separate from other rooms or activities, the conference flowed most smoothly with the least confusion.

Co-sponsors

All of the conferences were co-sponsored with other agencies. The co-sponsors:

- suggested the names of possible participants in the conference health fair
- provided the names of some of the professionals to serve as workshop leaders
- suggested or provided facilities for the conference
- provided considerable information about the community and local politics
- played a major role in recruiting teenagers

The co-sponsors were particularly helpful because PPLM had only one office in Cambridge, and the conferences were held in different locations throughout the state.

The co-sponsors included the Adolescent Center at Boston City Hospital, Brookline Family Counseling Service, Brookline Association for Mental Health, Framingham Task Force on Adolescent Pregnancy and Parenting, Family Planning Council of Western Massachusetts, Springfield Y.W.C.A., Family Planning Services of the South Shore, Cohasset Social Service League, Coastline Council for Children, and Boston University School of Social Work. Obviously these co-sponsors include a wide variety of organizations serving youth. Subsequent conferences have also been co-sponsored by public high schools.

Conference Dates

Conferences were held during school (students were given released time), after school, on Saturdays, during a school vacation day, and during a summer vacation weekday. The best time was clearly during the school day, provided students were given released time. During the school day, nearly all students could attend, were motivated to do so by the conditional released time, and were attentive. Somewhat fewer students attended after school because of jobs, other commitments, or less interest. After school, students had less time, were more tired, and had a much shorter attention span. On weekends and vacation days, students had more energy and a greater attention span, but they were much less likely to attend -- some of them had conflicting jobs or vacation plans, while others were reluctant to give up a free day for an event they thought would resemble school.

Conference Goals

The major goals of the conferences were to assist teenagers to make more responsible decisions about sexual behavior, to reduce unintended pregnancy, and to reduce other health problems through:

- providing teenagers with accurate information about sexuality
- giving teenagers an opportunity to discuss openly health and sexual issues
- introducing teenagers to some of the health and social service agencies available to them in their communities.

Conference Activities

Each conference included most of the following activities:

- Registration
- Opening Remarks and Guest Speaker
- Youth Expression Theater (Y.E.T.) Performance
- Morning Workshops
- Lunch
- Health Fair
- Afternoon Workshops
- Wrap-up Discussion Groups
- Raffle

Registration. When teenagers first arrived, they checked in at the Registration Table where conference staff checked off their names and gave them a registration packet. It included:

- a name tag
- a conference program listing the schedule of activities, workshops to be offered with their locations, health fair participants, co-sponsors, and professional participants
- a card identifying the teenager's discussion group and location
- a collection of pamphlets and booklets with information about decisionmaking about sexuality, contraception, pregnancy, sexually transmitted disease, and other topics

The registration folders obviously provided conference information which facilitated the smooth operation of the conference and other information that the participants could read and refer to later. However, the folders also had a more subtle effect; they made the participants feel that the conference was more professional, that they were important as individuals, and that they were being treated as responsible young people.

Opening Remarks and Guest Speaker. Staff from PPLM or the co-sponsoring agencies welcomed the teenagers, briefly reviewed the day's activities, and quickly discussed the theme of "MAKING CHOICES." At two conferences local celebrities gave short addresses. At one conference the coach of a well publicized champion high school basketball team spoke; at another a popular female newscaster from a local television station addressed the group. Both of these celebrities gained instant rapport with the participants and heightened enthusiasm for the day's activities.

In those sites where questionnaires were used to evaluate the program, they were administered after registration and before these speakers.

Y.E.T. Performance. Y.E.T. is a PPLM theatre troupe of high school students who perform a series of skits on issues related to adolescence. The skits have a focus upon sexuality, but also include other issues. They address topics such as dating, teenage pregnancy and parenting, talking to parents about sex, divorce in the family, and child abuse. All of the skits are unresolved and serve as a catalyst for subsequent discussions. They also give teenagers insight into their own behavior and the behavior of of peers, parents, teachers, and other adults. The skits last about 55 minutes, and are followed by a question and answer period in which the audience asks the performers questions, first in their roles as performers, and then as real people.

Y.E.T. performs in many schools and other locations throughout the year. At these conferences, as elsewhere, the audience was very enthusiastic about their performances. They stimulated considerable interest in subsequent activities.

Morning Workshops. Immediately after the Y.E.T. performance, participants went to their preassigned workshops. These workshops lasted between 60 and 90 minutes. They commonly started with discussions of the Y.E.T. performance. After the participants expressed some of their reactions, the workshop leaders began focusing more upon those skits that dealt with sexuality. They then discussed making decisions about sex, characteristics of different methods of birth control, and specific resources for obtaining contraceptives in that community. These workshops gave their participants ample opportunity to ask questions and to realize that other teenagers had some of the same questions and concerns.

The workshops were led by local professionals and PPLM staff. PPLM staff met with all the workshop leaders prior to the conference. During these meetings the PPLM staff described the background of the project, the conference schedule, and their expectations for the workshops.

Lunch. PPLM served a simple bag lunch to all the participants. Often it was served at one end of a large room which contained the health fair. Thus, as soon as the participants finished eating, they could begin browsing through the fair.

Health Fair. At the health fair different community agencies set up exhibits on different topics: family planning, pre-natal care, rape, smoking, alcohol and drug abuse, nutrition, exercise and fitness, and depression and suicide.

Many of the exhibits were designed to actively engage the teenagers. For example, different exhibiters measured blood pressure, measured lung capacity with a smoking machine, led participants in aerobic exercises, measured anxiety with a biofeedback machine when different words were spoken, provided the needed ingredients for healthy snacks which participants could make, spun a wheel of fortune to demonstrate the effects of alcohol, and showed slides and short films.

These exhibits gave the teenagers the opportunity to meet staff members from these agencies, to learn about the different topics, and to ask any questions they might have. The fair also gave the teenagers the opportunity to physically move around and to participate in unstructured activities at their own pace. Finally, it enabled PPLM to legitimately describe the conference as a health conference, instead of just a sexuality conference. This, of course, made it more acceptable to some groups. It also helped to put sexuality in the context of the many other health issues and concerns in teenagers lives.

At some of the conferences, films were shown in other rooms at the same time as the health fairs. The films included "Teenage Father", "Woman-Child", and "But Jack Was a Good Driver." Discussion groups followed each film.

Afternoon Workshops. The afternoon workshops resembled the morning workshops in length and organization, but they covered a wider range of topics: sexuality, birth control, alcohol abuse, teenage depression and suicide, family crises, and others. During lunch, the participants could select the workshop they wanted to attend. However, to make sure that some workshops did not become too large, size was limited. These workshops gave participants the opportunity to learn about other areas or to get additional information about some topic covered earlier.

Wrap-up Discussion Groups. At the end of the day, the participants remained in the afternoon workshops, but the discussion shifted to the entire day. Teenagers summarized what they had learned, discussed their reactions to the day, suggested changes, and in some sites completed the posttest questionnaires for the evaluation.

Raffle. At some conferences, everyone reassembled in the large room for a raffle of door prizes donated by local merchants. One purpose of the raffle was to keep the teenagers there for the entire day. Without the raffle a few teenagers tended to leave quietly during the day, especially if it was a weekend or holiday.

Use of Peer Educators

PPLM recruited and trained eleven peer educators to help with the conferences. These peer educators were high school seniors or college freshmen or sophmores. They received 36 hours of training to help them lead some of the workshops. Despite their maturity and their training, experiences at the first two conferences indicated that other more experienced and older professionals could better lead the workshops. Thus, in the remaining conferences, the peer educators helped set up and facilitate different components of the conference, talked with the teenagers during the health fair and other times, and led the final wrap-up sessions.

Recruitment of the Teenage Participants

Recruiting teenagers was one of the most challenging tasks for the conferences. PPLM used a variety of different methods to inform teenagers of the conferences and encourage participation. Specifically, they:

- worked with youth groups such as Y.W.C.A.'s, Boys Clubs, church youth groups, and alternative schools
- worked with social service and health agencies
- made announcements in schools
- put up posters and notices
- aired announcements on the radio

Recruitment was most effective when schools provided released time. However, without this type of support, the commitment of youth serving agencies to bring teenagers proved to be very effective.

One problem to overcome was transportation, particularly if the conference was not held at school during school hours. Sometimes the co-sponsors arranged car pools or bus service to bring all teenagers who wanted to participate. This worked effectively, but did require considerable effort.

Another problem was that before they attended students had difficulty envisioning what a conference would be like; they often believed it would resemble school. This problem was never fully solved, but it was diminished by direct contact between the PPLM staff and the teenagers and by word-of-mouth comments made by former participants. When conferences were sponsored a second time in the same area, participants from the first conferences recommended them to others.

Participant Evaluation of the Conferences

Participants gave very high evaluations to the conferences. They gave the topics covered, the format, and the total conference median ratings of 4.6, 4.6, and 4.7 (Table 13-1). Because many different people gave presentations, led discussion groups, it was not appropriate for the participants to rate the conference leaders.

Evaluation of the Effects of the Conference

Summary of the Evaluation Methods

Conference participants completed questionnaires at the beginning of the conference (pretests), at the end of the conference (first posttests), and about three to five months after the conference (second posttests). The pretests and second posttests included all the questions on the integrated questionnaires measuring knowledge, attitudes, and behavior. However, the questionnaires administered at the end of the conference included only those questions measuring outcomes that could have changed during the conference, namely, knowledge and attitudes.

There was relatively little need for a control group between the pretests and posttest, because any changes that occurred between the pretests and posttests were undoubtedly due to the conference. There was, however, a need for a control group for the pretest and second posttest data. It was not possible to obtain similar control groups at each of the sites of the conferences. Consequently, the experimental groups are compared with the control group from University City High School which was roughly similar in age and socio-economic status. Moreover the elapsed time between the pretests and second posttests for the experimental group was roughly equal to the elapsed time between the pretests and first posttests for the control group. Significantly, we compared the experimental group with several different control groups, and all of them produced the same results.

Impact upon Knowledge

The conference appeared to have no immediate impact upon knowledge, but did have a statistically significant long term impact upon knowledge (Table 13-2). That is, the participants did about equally well on the knowledge test in the morning at the beginning of the conference and in the afternoon at the end of the conference. However, about four months later, they did significantly better on the test, and their improvement was greater than that of the control groups. This suggests that the participants may have taken a while to assimilate the material or may have read and learned from the written materials after they took them home.

This is consistent with the participants' assessments of the course in which they indicated that they knew a little more about sexuality because of the conference (Table 13-6).

Impact upon Clarity of Values

Table 13-2 indicates that the course had no significant impact upon clarity of values. There was not a significant increase between the pretest and either posttest.

In their conference assessments, participants thought their values were a little more clear because of the conference (Table 13-6).

Impact upon Attitudes

According to Table 13-2, the conference did not have a significant impact upon attitudes toward either premarital intercourse or birth control. Again there were no significant changes between the pretest and either posttest.

In contrast, the participants felt rather strongly that because of the conference they believed birth control was more important (median = 4.6, Table 13-6).

Impact upon Skills

Table 13-2 indicates that the conference did not have any impact upon decisionmaking, assertiveness, or birth control communication skills. The reported frequencies of their use before and after the conference were not significantly different.

In their conference assessments, participants felt they communicated a little better (Table 13-6).

Impact upon Comfort with Different Social and Sexual Activities

According to Table 13-3, the conference had an impact upon comfort talking about sex, but the impact was negative. That is, the level of comfort declined between the pretest and second posttest. However, this finding is only marginally significant, and appears to be the result of an unusually high pretest score. Even the lower second posttest score is higher than that of the control group.

Participants claimed that they were more comfortable talking about sex (median = 3.7, Table 13-6).

Aside from the finding above, the pretest/posttest data indicate that there were no other changes in comfort with communication, having their current sex life, or using birth control.

Impact upon Frequency of Communication

According to Table 13-4, the conference did not have any impact upon the frequency of conversations about sexuality with parents, friends, or boyfriends or girlfriends. This was also confirmed by the participants' assessments of the conference.

Impact upon Sexual Behavior

According to Table 13-5, the course did not have a significant impact upon either intercourse or use of birth control. There was a significant increase in the percentage of participants that had ever had sex, but this increase was not significantly greater than the change in the control group.

In their assessments, participants claimed that they were neither more likely nor less likely to have sex because of the course (median = 3.1, Table 13-6). However, they also claimed that they would be more likely to use birth control if they had sex (median = 4.2).

Discussion and Summary of Results

These data support the following findings:

- The participants gave high overall ratings to the conference.
- The pretest/posttest data indicate that the conference increased long term knowledge, but had no significant impact upon clarity of values, attitudes, skills, comfort with different sexual activities, intercourse, or use of birth control.
- The participants' assessments of the conference indicate that they felt birth control was much more important and that they would be more likely to use birth control if they have sex. These assessments also indicated that they were neither less likely nor more likely to have sex because of the course.

The differences between these assessments and the pretest/posttest data are similar to those in other sites and are discussed more fully in the last chapter. However, in general, pretest/posttest data are considered more valid.

The questionnaires used to evaluate these conferences were probably less appropriate for this site than for other sites, because some of the outcomes measured in the questionnaire were not major goals of the site. A major goal of the conferences was to increase knowledge (which it did) and to provide a linkage to youth services. Unfortunately we were not able to measure any changes in the use of youth services. However, one important service is the provision of birth control methods, and there were no significant changes in the use of birth control. This suggests that the conference did not effectively achieve that goal.

The conferences organized by PPLM were far more elaborate than those organized by the Family Guidance Center in Missouri. They included theatrical performances by a youth group, the health fairs, the provision of food, and raffles. Thus, they were more costly. They might have been more successful at recruiting teenagers, but this is not certain, because the Family Guidance Center worked primarily through the schools. However, the pretest/posttest data indicate that the PPLM conferences did not have as great an impact as the Family Guidance Center conferences. It is not possible to determine from this evaluation whether this is due to differences in the populations (the Family Guidance Center participants were younger), to differences in staffing, to differences in basic conference design, or to other unknown factors.

The PPLM conferences did have a number of other positive outcomes that were important to that organization. The perceived success of the conferences evaluated in this chapter enabled PPLM to obtain funding and implement 12 additional conferences the following year. These reached about 1500 teenagers and were much more cost effective because the conference design was in place and recruitment was much easier. In combination, all of the conferences provided the entree and increased acceptance of PPLM and sexuality education at a number of public schools which had traditionally been reluctant to provide any sexuality education. These schools have asked PPLM to provide additional conferences and follow-up educational programs for teenagers, teachers, and parents. Apparently, the reputation of the conferences also caused other organizations in the Boston area to request that PPLM help them develop and implement programs. Finally, the conferences expanded and solidified relationships with other educational, health, and social service agencies.

Table 13-1

Student Summary Evaluations of the PPLM Conferences[a]

Median	Question
4.6	What is your evaluation of the topics covered in the conference?
4.6	What is your evaluation of the organization and format of the conference (e.g., length, location, and time)?
4.7	What is your evaluation of the overall conference?

[a] N=142

Key: 1=very poor
2=poor
3=average
4=good
5=excellent

Table 13-2

Effects upon Knowledge, Attitudes, and Skills of the PPLM Conferences:
Mean Percent Correct on Pretests, Posttests, and 2nd Posttests;
and Significance Levels for Differences between Pretests and Posttests
and between Experimental and Control Group Changes

			Means[a]			Significance[b]	
Outcome	Group[c]	N	Pre	1st Post	2nd Post	Pre vs 1st or 2nd Post	Change in E-Group[d] vs Change in C-Group
Knowledge	E	160	69.3	70.0		NS	NA
	E	93	68.2		77.2	.000	.000
	C	65	68.3		71.2	NS	
Clarity of Personal Sexual Values	E					NS	NA
	E					NS	NS
	C					NS	
Attitude toward the Importance of Birth Control	E					NS	NA
	E					NS	NS
	C					NS	
Attitude toward Premarital Intercourse	E					NS	NA
	E					NS	NS
	C					NS	
Sexual Decisionmaking Skills	E	Not included in the 1st posttest questionnaire.					
	E					NS	NS
	C					NS	
Assertiveness Skills	E	Not included in the 1st posttest questionnaire.					
	E					NS	NS
	C					NS	
Birth Control Communication Skills	E	Not included in the 1st posttest questionnaire.					
	E					NS	NS
	C					NS	

Footnotes to Table 13-2

[a] The mean scores of the knowledge test are the mean percents of correct answers. The means of the clarity of values and the attitudes are based upon five 1-5 Likert type scales. The mean scores of the skills are based upon multi-item indices. Both the attitudes and the skills are scored so that the final scales have a possible range of 1 to 5 and increases represent improvements.

The experimental group completed the pretest at the beginning of the program, first posttests at the end of the program, and second posttests about three to four months later. Because the elapsed time between the pretest and first posttest was so short, there was no control group for the pretest and first posttest. For the pretest and second posttest data there was a control group. The elapsed time between the experimental pretest and second posttest and the control pretest and posttest are about the same. Because some experimental students did not complete the 2nd posttest, the sample size for the 2nd posttest is smaller, and the data are presented on a separate line.

[b] NA means not appropriate because there was no control group for the pretest and first posttest data. NS means not significant at the .05 level. All tests of significance are matched-pairs two-tailed t-tests. Smaller numbers represent smaller probabilities of results having occurred by chance. Thus, .000 is the probability rounded to three digits and represents the highest level of significance. If the probability of results having occurred by chance was greater than .050, then the data were considered not significant and were not included in the table.

[c] E is the experimental group. C is the control group from University City High School.

[d] This column is the significance of the difference between the change in the experimental group and the change in the control group. The change in each group is either the first posttest minus the pretest or the second posttest minus the pretest.

Table 13-3

Effects upon Comfort with Different Activities of the PPLM Conferences:
Mean Scores on Pretests, Posttests, and 2nd Posttests;
and Significance Levels for Differences between Pretests and Posttests
and between Experimental and Control Group Changes

			Means[a]			Significance[b]	
Outcome	Group[c]	N	Pre	1st Post	2nd Post	Pre vs 1st or 2nd Post	Change in E-Group[d] vs Change in C-Group
Comfort	E	105	3.0	2.9		NS	NA
Talking	E	55	3.2		2.9	.004	.041
about sex	C	51	2.7		2.7	NS	
Comfort	E					NS	NA
Talking about	E					NS	NS
Birth Control	C						
Comfort	E	147	2.0	2.0		NS	NA
Talking with	E	136	2.0		2.2	.011	NS
Parents about	C	47	2.0		2.2	NS	
Sexuality							
Comfort	E					NS	NA
Having	E					NS	NS
Current	C					NS	
Sex Life							
Comfort	E					NS	NA
Getting and	E					NS	NS
Using Birth	C					NS	
Control							

[a] The means are based upon the following key:

Key: 1=very uncomfortable
2=somewhat uncomfortable
3=a little uncomfortable
4=comfortable

This key is the reverse of the key in the questionnaire. The scale was reversed so that larger numbers would represent improvement and be more similar to other scales in the evaluation. See the second paragraph of footnote a in Table 13-2.

[b] See footnote b in Table 13-2.
[c] See footnote c in Table 13-2.
[d] See footnote d in Table 13-2.

Table 13-4

Effects upon Frequency of Conversations about Sexuality of the PPLM Conferences:
Mean Scores on Pretests and 2nd Posttests;
and Significance Levels for Differences between Pretests and Second Posttests
and between Experimental and Control Group Changes

			Means[a]		Significance[b]	
Outcome	Group[c]	N	Pre	2nd Post	Pre vs 2nd Post	Change in E-Group vs[d] Change in C-Group
Frequency of conversations about sex with parents	E				NS	NS
	C				NS	
Frequency of conversations about sex with friends	E				NS	NS
	C				NS	
Frequency of conversations about sex with boy/girlfriend	E				NS	NS
	C				NS	
Frequency of conversations about birth control with parents	E				NS	NS
	C				NS	
Frequency of conversations about birth control with friends	E				NS	NS
	C				NS	
Frequency of conversations about birth control with boy/girlfriend	E				NS	NS
	C				NS	

[a] All mean scores are the means of the frequencies for the last month. See the second paragraph of footnote a in Table 13-2.

[b] See footnote b in Table 13-2.

[c] See footnote c in Table 13-2.

[d] See footnote d in Table 13-2.

Table 13-5

Effects upon Sexual Intercourse and Use of Birth Control of the PPLM Conferences:

Mean Scores on Pretests and 2nd Posttests;
and Significance Levels for Differences between Pretests and Second Posttests
and between Experimental and Control Group Changes

			Means[a]		Significance[b]	
Outcome	Group[c]	N	Pre	2nd Post	Pre vs 2nd Post	Change in E-Group vs[d] Change in C-Group
Ever had sex	E	49	.39	.53	.033	NS
	C	60	.35	.38	NS	
Had sex last month	E				NS	NS
	C				NS	
Frequency of sex last month	E				NS	NS
	C				NS	
Frequency of sex without birth control	E				NS	NS
	C				NS	
Frequency of sex with poor birth control	E				NS	NS
	C				NS	
Frequency of sex with effective birth control	E				NS	NS
	C				NS	

[a] For the first two questions, mean scores represent the proportions that have had intercourse. For the remaining questions, mean scores are the means of the actual frequencies. See the second paragraph of footnote a in Table 13-2.

[b] See footnote b in Table 13-2.

[c] See footnote c in Table 13-2.

[d] See footnote d in Table 13-2.

Table 13-6

Student Assessments of the Impact of the PPLM Conferences

Median[a]	Question
3.6	1. Do you know less or more about sexuality because of this conference?
3.4	2. Do you now have less or more understanding of yourself and your behavior because of this conference?
3.7	3. Are your attitudes and values about your own sexual behavior less or more clear because of this conference?
4.6	4. Because of this conference, do you now feel that using birth control when people are not ready to have children is less important or more important?
3.4	5. Do you talk about sexuality (e.g., going out, having sex, birth control, or male and female sex roles) with your friends less or more because of this conference?
3.4	6. Do you talk about sexuality with your boy/girlfriend less or more because of this conference?
3.2	7. Do you talk about sexuality with your parents less or more because of this conference?
3.7	8. When you talk about sexuality with others (such as your friends, boy/girlfriend, and parents) are you less or more comfortable because of this conference?
3.6	9. Do you now talk about sexuality less or more effectively (i.e. are you more able to talk about your thoughts, feelings, and needs and to listen carefully)?
3.1[b]	10. Are you less or more likely to have sex because of this conference?
4.2	11. If you have sex, would you be less or more likely to use birth control because of this conference?
4.0	12. If you have sex, would you be less comfortable or more comfortable using birth control because of this conference?
3.7	13. Do you know less or more about where to get birth control because of this conference?
3.6	14. Do you now make worse or better decisions about your social life (e.g., going out and forming relationships) because of this conference?
3.6	15. Do you now make worse or better decisions about your physical sexual behavior because of this conference?

[a] N=26

Key: 1=much less
2=somewhat less
3=about the same
4=somewhat more
5=much more

[b] For all questions, except #10, a median greater than 3.0 represents a positive change and a median less than 3.0 represents a negative change. For Question 10, the reverse is true.

CHAPTER 14

PLANNED PARENTHOOD OF SAN ANTONIO PEER EDUCATION PROGRAM

Description of the Program

Background

As indicated in Chapter 10, San Antonio is a southwestern city whose population has more than doubled in the past twelve years. It is now one of the ten largest cities in the United States, but its population is spread out and seems much more suburban than urban. Over half the population is Mexican-American and Catholic, and the population includes many poor and undereducated families with many children.

Planned Parenthood Center of San Antonio (PPSA) has provided sexuality education for fourteen years and began its first peer education program in 1978. During the following five years it trained about 350 high school students as peer educators. These high school students received instruction on sexuality, educating, and counseling, and in turn they gave presentations to school classes or other organizations, talked with their peers, answered questions when stopped in the school hallways or elsewhere, and referred students who needed services to appropriate organizations.

Philosophy and Goals

One of the major goals of the peer education program is to reduce unintended pregnancy by increasing the sexual information that young people have and helping them make better decisions. It recognizes that individuals make sexual decisions without having sufficient factual information and without fully considering either the consequences of some of their decisions or their responsibility for their consequences. It also recognizes that peers are very important because many teenagers get much of their information from their peers and peer pressure significantly affects their behavior.

Selection and Training of the Peer Educators

Each year the PPSA trainer outlines the responsibilities of both the peer educators and their regular classroom teachers, and then asks both the teachers and current peer educators to recommend and recruit students who would make excellent peer educators. They look for students who are responsible, will commit the needed time and energy, are able to maintain confidentiality, and are approachable by other students. They try to recruit enough sophomores and juniors to maintain the continuity of the program from year to year.

All peer educators must complete a minimum of 30 hours of training. The training incorporates a decisionmaking approach, but also focuses upon communication skills. It covers the following topics: qualities of a peer educator, identifying personal values, decisionmaking skills, peer pressure, communicating with parents and peers, myths and facts of sexuality, reproduction, contraception, adoption, abortion, problems of teenage parenthood, sexually transmitted diseases, child abuse, and homosexuality. It includes many didactic and experiential activities. For example one activity is a role playing exercise in which the female plays the role of a male pressuring a girl to have sex and a male plays the role of a girlfriend who is in love but trying to resist. The peer educators adapt many of the exercises in the training and later use them in the sessions that they lead with other students. Before working with other students in the school, the peer educators practice their skills by leading rap sessions with other peer educators.

Peer Education Materials

The peer educators are given a variety of materials during their instruction. One important resource is a booklet which answers the most commonly asked questions about birth control. It provides the most important information on all common forms of birth control.

Peer Educator Sponsor

At each school there is a faculty sponsor who acts as a laison between the school and Planned Parenthood. That sponsor updates the school about the program, keeps PPSA informed of any desired changes in the program or of any innovative ideas, helps recruit students, arranges times and places for the training and subsequent meetings, coordinates getting parental permission, and keeps records of peer education activities in school.

Activities of the Peer Educators

The peer educators engage in three major kinds of activities; they give lectures or lead discussions in classrooms, hold rap sessions at various times and places during or after school, and talk informally and individually with students whenever students approach them. The classroom sessions typically last for one class period and are co-taught by two peer educators. Many of the sessions focus upon decision-making and the most common methods of contraception.

Because peer educators are young and not professionally trained, they of course do not have all the answers to all the questions. Thus, an important part of their training is to recognize their limitations and to become aware of community resources. They frequently refer other students to the appropriate authorities (e.g., Planned Parenthood), or obtain the correct information and then get back to the students.

Publicity in the Schools

The peer educators use a variety of techniques to inform other students of their availability. Perhaps most important, their classroom presentations give them considerable visibility. They also create posters for the school which describe their skills and provide their names. They wear special blue t-shirts with the words, "Peer Educator", written on them. They sometimes present skits to school assemblies. They give presentations to other groups such as churches and PTA's. Some of the educators distribute calling cards with their names and sometimes their phone numbers on them so that students can more easily contact them.

Evaluation of the Effects of the Peer Education Program upon the Educators

The peer education program has its greatest impact upon three groups of people -- the peer educators themselves, the classes of students to which they give presentations, and other students whom they briefly encounter on a one-to-one basis.

We collected data to measure the impact of the program upon the first two groups. We did not collect data for the third group, because we did not know ahead of time which students would interact with the peer educators and should receive pretests. It was not possible to administer questionnaire to eveyone in the school.

Ten of the peer educators completed the integrated knowledge, attitude, and behavior questionnaires before, after, and three months after they took the training. Because the sample size was so small, the results are not presented in table form and few results are statistically significant.

However, between the pretests and the posttests there were substantial changes that would have become statistically significant if the sample size had been larger and magnitudes remained the same. Peer educators substantially increased their knowledge, clarified their values, became more accepting of premarital sex for others, became more comfortable talking with their friends and parents about sex, talked more frequently with friends and parents about sex and birth control, more frequently said "No" to sexual pressure, reduced the number of times they had sex, reduced the number of times they had sex without birth control or with ineffective forms of birth control, and became more comfortable with their sex lives.

These results are encouraging, because most of them were goals of the program, the magnitude of the change in each case was substantial, and the data were quite consistent across questions. However, it should be fully realized that few of the results were statistically significant because the sample size was so small. Moreover, the major goal of the program was not to affect the peer educators themselves, but to affect all the students with whom the peer educators interacted.

Evaluation of the Effects of the Peer Education Program upon Other Students

Summary of the Evaluation Methods

The students who were in the classes taught by the peer educators completed pretests before the instruction and a single posttest about two months after the instruction. Questionnaires were administered at the same time to young people in the peer educator taught classes and to other classes of students who served as a control group. Thus, the experimental and control groups were similar in age and social-economic composition.

Impact upon Knowledge

Table 14-1 indicates that the peer taught classes had a significant impact upon knowledge. The number of correct answers for the experimental group increased about 13 percent while the number of correct answers for the control group increased only 3 percent. This difference was statistically significant.

Impact upon Attitudes

The data in the same table also indicate that the course significantly increased the perceived importance of birth control. In the experimental group, the mean score increased from 4.1 to 4.3, while in the control group it actually decreased slightly. Apparently the peer taught class did not have an impact upon either the clarity of personal values or attitude toward premarital sex. In the latter case, there were changes over time, but the change in the experimental group was the same as the change in the control group.

Impact upon Skills

According to Table 14-1, the classes affected neither sexual decisionmaking nor assertiveness skills, but did increase birth control communication skills. That is, in comparison with before the course, after the course students indicated they more commonly talk about birth control if they have sex. In the experimental group, the increase was quite large (2.8 to 3.3); in the control group the change was in the other direction (3.4 to 3.1).

Impact upon Comfort

According to Table 14-2, the peer taught course did not have any impact upon comfort talking about sex or birth control, having their current sex lives, or getting and using birth control. There were no significant changes anywhere.

Impact upon Frequency of Communication

According to Table 14-3 the course did not have any significant impact upon the frequency of communication about sex or birth control with parents, friends, or boyfriends and girlfriends. Again, nothing was statistically significant.

Impact upon Sexual Behavior

Table 14-4 indicates that the classes did not have any impact upon whether or not the participants had ever had sex, had sex the previous month, the number of times they had sex, with and without birth control, or the frequency of their use of different birth control methods. Again, nothing was significant.

Impact upon Pregnancies

As described in Chapter 10, Planned Parenthood staff examined all their pregnancy records in their five clinics for the previous seven years and obtained pregnancy rates for each school for each year. These data might be biased because Planned Parenthood might have more complete pregnancy data in those schools where it offered courses or peer education. That is, teenagers who got pregnant while in a school with peer educators may be far more likely to go to Planned Parenthood for a pregnancy test than teenagers who got pregnant while in a school without peer educators. This bias could obscure a reduction in pregnancies or could incorrectly suggest that the peer education program increased pregnancies. These data and their validity are more fully described in Chapter 4.

To measure the impact of the peer education program upon pregnancies, we regressed both the number of pregnancies and the percentage of the students who become pregnant upon various measures of peer education in the schools. We always controlled for school and year in these regression analyses.

Most of the results indicate that the peer education program did not have a significant impact upon pregnancies. One of several regression analyses suggested that there was a positive relationship between the proportion of students that were peer educators and the percentage of students that got positive pregnancy tests at Planned Parenthood. This result is undoubtedly a result of the data bias specified above. That is, when schools had more peer educators, they were more likely to tell pregnant students to go to Planned Parenthood for a pregnancy test. However, it is also true that the data produced no evidence for the reduction of pregnancies.

Summary of Results

The data support several tentative conclusions:

- The program probably had many positive effects upon the peer educators themselves. They became more knowledgeable, their attitudes became more clear, they reduced their frequency of intercourse, they increased their communication, and they became more comfortable with their sex lives.

- The peer taught classes appear to have had a significant impact upon knowledge, perceived importance of birth control, and birth control communication skills. However, it did not appear to have any impact upon other skills, comfort, communication, or sexual and contraceptive behavior.

- The pregnancy data indicate that the program had little impact upon pregnancies.

Given that these classes were very short (typically one day) and were taught by high school students with no professional teaching experience, the classes had a remarkably large impact upon knowledge and attitudes toward birth control. Educators have argued that young people may listen more attentively and with greater acceptance to their peers than to adults. These data indicate that peers did just as well as professional adults with the limited time.

Table 14-1

Effects of PPSA Peer Education Program upon Knowledge, Attitudes, and Skills: Mean Percent Correct on Pretests and Posttests; and Significance Levels for Differences between Pretests and Posttests and between Experimental and Control Group Changes

			Means[a]		Significance[b]	
Outcome	Group[c]	N	Pre	Post	Pre vs Post	Change in E-Group vs[d] Change in C-Group
Knowledge	E	116	52.1	64.9	.000	.000
	C	77	65.2	68.2	NS	
Clarity of Personal Sexual Values	E				NS	NS
	C				NS	
Attitude toward the Importance of Birth Control	E	113	4.1	4.3	.012	.004
	C	76	4.4	4.3	NS	
Attitude toward Premarital Sex	E	113	2.7	2.6	.048	NS
	C	76	2.6	2.5	NS	
Sexual Decisionmaking Skills	E				NS	NS
	C				NS	
Assertiveness Skills	E				NS	NS
	C				NS	
Birth Control Communication Skills	E	59	2.8	3.3	.018	.005
	C	37	3.4	3.1	NS	

Footnotes to Table 14-1

[a] The mean scores of the knowledge test are the mean percents of correct answers. The means of the clarity of values and the attitudes are based upon five 1-5 Likert type scales. The mean scores of the skills are based upon multi-item indices. Both the attitudes and the skills are scored so that the final scales have a possible range of 1 to 5 and increases represent improvements.

Both the experimental and control groups completed the pretest at the beginning of the program and the posttest about two months after the program.

[b] NA means not appropriate because there was no control group for the pretest and first posttest data. NS means not significant at the .05 level. All tests of significance are matched-pairs two-tailed t-tests. Smaller numbers represent smaller probabilities of results having occurred by chance. Thus, .000 is the probability rounded to three digits and represents the highest level of significance. If the probability of results having occurred by chance was greater than .050, then the data were considered not significant and were not included in the table.

[c] E is the experimental group. C is the control group from the same school.

[d] This column is the significance of the difference between the change in the experimental group and the change in the control group. The change in each group is the posttest minus the pretest.

Table 14-2

Effects of PPSA Peer Education Program upon Comfort with Different Activities:
Mean Scores on Pretests and Posttests;
and Significance Levels for Differences between Pretests and Posttests
and between Experimental and Control Group Changes

			Means[a]		Significance[b]	
Outcome	Group[c]	N	Pre	Post	Pre vs Post	Change in E-Group vs[d] Change in C-Group
Comfort Talking about sex	E				NS	NS
	C				NS	
Comfort Talking about Birth Control	E				NS	NS
	C				NS	
Comfort Talking with Parents about Sexuality	E				NS	NS
	C				NS	
Comfort Having Current Sex Life	E				NS	NS
	C				NS	
Comfort Getting and Using Birth Control	E				NS	NS
	C				NS	

[a] The means are based upon the following key:

Key: 1=very uncomfortable
2=somewhat uncomfortable
3=a little uncomfortable
4=comfortable

This key is the reverse of the key in the questionnaire. The scale was reversed so that larger numbers would represent improvement and be more similar to other scales in the evaluation. See the second paragraph of footnote a in Table 14-1.

[b] See footnote b in Table 14-1.
[c] See footnote c in Table 14-1.
[d] See footnote d in Table 14-1.

Table 14-3

Effects of PPSA Peer Education Program upon Frequency of Conversations about Sexuality:
Mean Scores on Pretests and Posttests;
and Significance Levels for Differences between Pretests and Posttests
and between Experimental and Control Group Changes

			Means[a]		Significance[b]	
Outcome	Group[c]	N	Pre	Post	Pre vs Post	Change in E-Group vs[d] Change in C-Group
Frequency of conversations about sex with parents	E C				NS NS	NS
Frequency of conversations about sex with friends	E C				NS NS	NS
Frequency of conversations about sex with boy/girlfriend	E C				NS NS	NS
Frequency of conversations about birth control with parents	E C				NS NS	NS
Frequency of conversations about birth control with friends	E C				NS NS	NS
Frequency of conversations about birth control with boy/girlfriend	E C				NS NS	NS

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[a] All mean scores are the means of the frequencies for the last month. See the second paragraph of footnote a in Table 14-1.

[b] See footnote b in Table 14-1.

[c] See footnote c in Table 14-1.

[d] See footnote d in Table 14-1.

Table 14-4

Effects of PPSA Peer Education Program upon Sexual Intercourse and Use of Birth Control: Mean Scores on Pretests and Posttests; and Significance Levels for Differences between Pretests and Posttests and between Experimental and Control Group Changes

Outcome	Group[c]	N	Means[a]		Significance[b]	
			Pre	Post	Pre vs Post	Change in E-Group vs[d] Change in C-Group
Ever had sex	E				NS	NS
	C				NS	
Had sex last month	E				NS	NS
	C				NS	
Frequency of sex last month	E				NS	NS
	C				NS	
Frequency of sex without birth control	E				NS	NS
	C				NS	
Frequency of sex with poor birth control	E				NS	NS
	C				NS	
Frequency of sex with effective birth control	E				NS	NS
	C				NS	

[a] For the first two questions, mean scores represent the proportions that have had intercourse. For the remaining questions, mean scores are the means of the actual frequencies. See the second paragraph of footnote a in Table 14-1.

[b] See footnote b in Table 14-1.

[c] See footnote c in Table 14-1.

[d] See footnote d in Table 14-1.

CHAPTER 15

FAMILY GUIDANCE CENTER PARENT/CHILD PROGRAM

Description of the Program

Background

The Family Guidance Center in St. Joseph, Missouri is a community mental health center. It provides family planning clinical services, infertility and pregnancy counseling to clinic patients, and a wide variety of sexuality and family life programs to schools and other community groups. Its school program and conferences are evaluated elsewhere in this volume.

The Family Guidance Center serves nine rural counties in northwest Missouri. Those counties contain a wide range of occupations, income levels, and religious affiliations. Most of the people are white. In general, these counties hold rather traditional values about sexuality.

With the exception of the Family Guidance Center programs, the public school curricula include little that can be labeled sex education. The Family Guidance Center developed their parent-child program to minimize the opposition that would have affected other kinds of programs.

Although the program has been developed and taught by the Family Guidance Center, other groups, such as schools, PTAs, YWCAs, YMCAs, churches, and youth organizations frequently endorse and support the program. This endorsement and support lend credibility and acceptability to the program and are particularly important when the program is first provided to a new community. The sponsoring agencies commonly recruit participants, handle registration, and provide or arrange the facilities.

To facilitate recruitment, both the sponsoring agencies and the Family Guidance Center send out newsletters; arrange announcements in church, PTA, school, and other newsletters; publish articles in local newspapers; and appear occasionally on local radio or television programs. Although these activities are effective, past participants in the program and other supporters recruit many people by simply contacting friends or acquaintances and encouraging them to participate. Since its inception in 1976, more than 2,000 people have participated.

The Center charges ten dollars for each parent-child couple. This is unusual for sex education programs. The charge has two effects. First, it helps offset the expenses of the program. Second it apparently causes the participants to treat the program more seriously and to attend more responsibly. The fee does not appear to prevent people from participating. However, when the fee may prevent people from participating, the instructor can waive it, or "scholarships" may be provided by the sponsoring group.

Program Structure

The Family Guidance Center offers classes for four groups of people: mothers and daughters aged 9-12, mothers and daughters aged 13-17, fathers and sons aged 9-12, and fathers and sons aged 13-17.

For several reasons, the Center prefers that only one parent attend with each child. First, rarely can both parents attend all classes, and one parent should attend all sessions to ensure continuity. Second, the number of parents should not substantially exceed the number of children. If it did, the parents might overwhelm the children. Third, the total group size should be kept to a manageable size. And finally, experience shows that parent and child couples work well.

The Center also prefers that the parent and child be the same sex because this diminishes embarrassment. For example, some ten year old girls may be uncomfortable asking questions about menstruation if their fathers are present. Nevertheless, there is an increasing number of single parent families, and consequently, some mothers have accompanied their sons. Thus far, fathers have not asked to accompany their daughters.

Each class is limited to ten parent-child couples. If there were many more couples than this, the teachers would have difficulty moving quickly from one activity to another and providing individual help where needed.

The classes for parents and younger children last for five sessions, while the classes for parents and older children contain six sessions. All of the sessions last two hours. With only one exception, all the sessions are for children with their respective parents. The one exception is the first session of the classes for parents and younger children, which is attended only by parents. Both parents are encouraged to attend this session.

Most participants in the parent-child program prefer week nights during the months September through November and January through April. However, these preferences may simply reflect the agricultural focus of the community.

Curriculum for Classes with Children Aged 9-12

The basic curricula for both the male and female classes are very similar. Both classes cover the same topics, but some topics are covered more thoroughly in one class than the other. For example, both classes cover menstruation, but the female class covers it in greater detail.

At the introductory session for parents only, the instructor explains the philosophy of the course, provides and discusses the course outline, and shows the film, "A Family Talks about Sex." After the film (and also later in the course) the instructor emphasizes the active role that the parents should play both at home and there in the classroom. This discussion also focuses upon the role the "absent" parent plays in the human sexuality class and ways the "absent" parent can be better incorporated into discussions at home.

The factual information conveyed during the subsequent sessions covers reproductive anatomy and physiology, body changes during puberty, feminine and masculine health and hygiene, reproduction, pregnancy and childbirth. The girls learn about male body changes as well as about their own. The same is true for fathers and sons. The curriculum also incorporates the exploration of feelings and values.

Curriculum for Classes with Children Aged 13-17

The course for parents and teenagers differs from that offered to parents and younger children. As one would expect, the classes for teenagers cover in greater depth the same basic factual information and other subjects more appropriate to teenagers. For example, the sessions cover breast and pelvic exams, birth control methods, sexually transmitted diseases and teenage sexual behavior. There is also much greater emphasis upon values clarification, and decision-making and communication skills.

Parents believe that the most important topics are teenage sexuality and pregnancy. Often discussions on these topics become the focal point in the adolescent courses.

Classroom Activities

The classes combine mini-lectures, discussions, question-and-answer periods, games, films, and other activities. Throughout the classes there is an emphasis on the feelings associated with different growth stages and experiences. This combination of objective information and feelings appears to work well.

The instructor strongly encourages parents to play an active role in the classroom. Continually, throughout the course, the instructor asks parents to share stories from their past, their feelings about their own body changes during puberty, their experiences during their pregnancies and deliveries, and other events in their families. In effect, the instructor and parents become "team teachers" with parents participating in the classroom experience instead of passively observing while their children learn.

The instructor also encourages parents and children alike to ask questions at any time. For those who may want to remain anonymous with their questions, the instructor provides a question box at the end of each session. Each class member must put some question or comment about the class in the box before leaving. This prevents anyone from knowing who asks questions and who does not. All written questions are then answered in the class at the beginning of the next session. This system has three important outcomes. First, it allows the children to ask sophisticated questions. That is, the mixing of parent and child questions reduces the childrens' fears that their questions may demonstrate too much knowledge about a sexual topic. Second, the question box allows parents to ask questions of concern to themselves. Although the course is ostensibly for the children, many of the parents have real concerns about their own sexuality, and some of their questions are answered. For example, they ask questions about vasectomies, hysterectomies, and impotence. Third, answering the questions the following week both provides continuity and gives the instructor the opportunity to research more sophisticated questions. In sum, the question and answer box is particularly effective within this parent-child structure.

Some of the participants' favorite activites are the games. Most of the games are used in all four courses. Two games are especially popular. The first is the "Human Sexuality Game." More information about this game is available from the Family Guidance Center. It is a board game with dice and two piles of cards. Players roll their dice, draw a card, answer the question, and move along the board. This movement determines who wins, and thus the game is competitive. However, answering a question correctly does NOT affect the number of squares moved. Thus, both parents and children are equally likely to win, and the other players can help the cardholder answer the question. When a player lands on a blue space, that player must pick a blue "Fact Card" and answer the question on that card (e.g., "Which parent determines the sex of the baby?" or "Usually, the first sign that puberty is starting is...?") When a player lands on a green space, that player must draw a "Feelings Card" and answer it. These cards are designed to elicit feelings about sexual topics (e.g. "I feel embarrassed when..." or "What would it be like if men could have babies too?") Scattered among the blue and green squares on the board are red squares instructing the player to "Lose one turn" or "Go back two spaces." These make the activity seem more like a game. All groups use the same game boards, but there are different cards for the younger and older and male and female groups.

A second very popular game is the "Balloon Game." It resembles a relay race in which the class is divided into two teams (often parents versus children) and every player is given a balloon which has been previously stuffed with a question about sexuality. At the start of go, the players one at a time have to blow up their balloons, burst them, and answer the questions. Once again, other players on the team can help. Of course, the team to finish first wins. This game generates a great amount of excitement.

Both of these games are competitive and fun, and they thereby enable both young and old to read and answer questions about sexuality that normally would make them uncomfortable. Thus, they substantially increase communication about sexuality between parents and their own children.

A third activity, "Dear Abby" is also very popular. Its purpose is to focus on the decision-making, problem-solving aspect of human sexuality issues. The class is divided into groups of four containing two teenagers or preteenagers and their respective parents. Each group has a pile of "Dear Abby" cards. On each card is a letter to Abby seeking advice, and the group, role-playing Abby, must make decisions about how to solve the writer's predicament. The following is an example from teenage curriculum:

> Dear Abby,
>
> My mother won't let me go on car dates. I am almost fifteen and my boyfriend has his license. It is very awkward, since he can drive and I can't ride. What can I do?
>
> Walking Dilemma

After the letters have been discussed in the small groups, the groups read some of them with their answers. Normally, this stimulates considerable class discussion. Thus, the activity provides a format for teens and parents to work together and to discuss their feelings, beliefs and values with each other.

Characteristics of the Instructors

Three instructors, two women and one man teach the program. All three of them are experienced teachers; they have implemented this program for several years, attended training programs several times, and have offered training for other sexuality education teachers. Their teaching styles differ, but they all use a lot of humor in their presentations and have great rapport with both the young people and their parents.

Evaluation of the Class for Parents and Younger Children

Parent Evaluation

The parents gave the teachers extremely high ratings (Table 15-1). On most characteristics the teachers scored 4.7 or above. On a few characteristics, the teachers received lower ratings, but those lower ratings are appropriate. For example, the lowest rating was for encouraging the use of birth control. Because of the age of the children, birth control is not considered an appropriate topic. Overall the teachers received a rating of 4.9 (Table 15-3).

The parents also rated the classroom environment highly (Table 15-2). The parents believed that their children participated a large amount in class discussions. They themselves participated only a medium amount. Given that the focus is upon the children, this may be an appropriate score. Parents believed that their children had a small amount of difficulty talking about their own thoughts and feelings. Although there is potential for reducing this difficulty, the fact that the children did not have greater difficulty is quite remarkable.

The overall evaluations were also very high, ranging from 4.6 to 4.9 (Table 15-3). The overall program was considered excellent (median = 4.8).

Evaluation of the Effects of the Program for Parents and Younger Children

Summary of the Evaluation Methods

The children completed short questionnaires measuring knowledge and parent/child communication at the beginning of the program, at the end, and about 3 to 5 months after the program. The knowledge test was created by the Family Guidance Center teachers and reviewed by the Mathtech staff. We could not obtain a control group for that age group, and the control groups from other sites were inappropriate because the people in them were much older.

Because the children were quite young, we gave the communication part of the questionnaire to parents as well, and thereby obtained an independent verification of the characteristics of the communication.

Impact upon Knowledge

Table 15-4 indicates that the course had a major impact upon knowledge. The students' total knowledge score greatly increased during the course (from 42 percent correct to 86 percent correct). The percentage of students answering each question increased substantially. Moreover, the students retained all this knowledge until the second posttest three to five months later. These changes were highly statistically significant.

Although there was no control group, the data suggest that the course produced the increase. First, the increase was substantial, and none of the control groups in other sites experienced an increase nearly this large. Second, there was no increase after the course ended. If normal maturation had been the cause of the increase, then the scores should have continued to improve.

Impact upon Parent/Child Communication

The data also demonstrate that the course had a substantial impact upon communication. The number of conversations about sex and about birth control greatly increased between the pretests and posttests according to both the children and their parents. These changes were highly significant. However, they are not surprising, because the posttest asked about the period during which the participants took the course, and many parents talked with their children on the way home after the course. The number of conversations about both sex and birth control were also greater on the second posttest than on the pretest. All the increases were statistically significant. However, on the second posttests the estimates of the parents were substantially higher than those of the children. According to the parents' estimates, the number of conversations continued to increase after the course was over; according to the children's estimates the number of conversations declined after the posttest, but still remained higher than on the pretest.

Most of the estimates of the length of the conversations indicated that there was no significant change in length between the pretests and posttests. The one minor exception is that the parents thought the conversations about sex were slightly longer on the second posttest than on the pretest.

The course also tended to increase comfort during these conversations, although not all changes were statistically significant. Both the children and their parents thought that the children's comfort talking about sex increased between the pretest and the posttest. According to the parents, their children became even more comfortable by the second posttest. According to the children, their comfort decreased after the first posttest, but remained higher than on the pretest. The same pattern appeared in the children's comfort talking about sexuality, but only the parent's estimate of the pretest/posttest increase was statistically significant.

Finally, the parent's comfort talking about both sex and birth control increased between the pretest and posttest and remained at that more comfortable level until the second posttest. All these increases were statistically significant, except for the pretest/second posttest increase in discussing birth control. That exception would probably have also been significant if the sample size had not been so small.

When parents were asked to assess the impact of the course, their assessments were consistent with the pretest/posttest data (Table 15-5). Parents thought that their children knew much more about sexuality because of the course, that they themselves were much more comfortable talking about sexuality, and that they actually talked more about sexuality. They also thought that their children's values were more clear and that they would make better decisions because of the course.

Discussion and Summary of Results of the Course for Younger Children

These data support several conclusions:

- The parents view the course very positively and give it very high ratings.
- The course greatly increased the knowledge of the children.
- The course increased both the frequency of conversations about sex and birth control and the comfort during these conversations.

This course appears to very effectively meet the goals of the course. Moreover, the improvements remained at least until the second posttest three to five months later. Although there was no control groups for this program, none of the control groups at other sites demonstrated anything close to this amount of change.

Evaluation of the Program for Parents and Older Children

Student and Parent Evaluation

Both the teenagers and their parents gave the teachers and the course very high ratings. Teenagers gave the teachers a high overall rating of 4.5 (Table 15-8) and rated the teacher 4.0 or higher on all positive characteristics but one, and many ratings were 4.8 (Table 15-6). The one exception was that the students thought the teachers discouraged hurting others only a medium amount. This certainly allows for improvement, although it should be remembered that most of these teenagers were very young and discussions of not spreading VD or not forcing others to have sex would have been premature.

The parents gave the teacher an even higher overall rating (median = 4.9, Table 15-11) and also rated the other teachers' characteristics higher than did the students. Significantly, they thought the teachers emphasized not hurting others a large amount (median = 4.5, Table 15-9).

Both teenagers and their parents also rated the classroom environment very highly (Tables 15-7 and 15-10). Both groups indicated that the teenagers participated in class discussions a large amount, and that they had only a small amount of difficulty expressing their own thoughts and feelings. Parents claimed that they participated a medium amount in class discussions.

Parents thought the overall program was excellent (median = 4.8, Table 15-11), while teenagers thought it was good (median = 4.2, Table 15-8).

Evaluation of the Effects of the Program for Parents and Older Children

Summary of the Evaluation Methods

At the beginning of the program, at the end of the program, and about four months after the program questionnaires were administered to both the teenagers and their parents in the course. The questionnaires for the teenagers included most of the questions in the integrated questionnaires. However, most of the teenagers were young and had not had sex, and thus were not asked to answer some of the questions (e.g. those dealing with the use of birth control). Those questions which were inappropriate were not included in the tables. The questionnaires for the parents included questions on communication between themselves and their teenagers in the course.

It was not possible to obtain a control group from the communities served by this program for either the teenagers or parents. Consequently, the pretest/first posttest data are not compared with those from a control group and the teenagers′ pretest/second posttest data are compared with control group data from another site.

Because, the pretests and first posttests were administered only five weeks apart, any statistically significant changes are probably due to the program and not other factors. This conclusion is supported by the data from other control groups in other sites which indicate that teenagers change little in five weeks; for example, they do not suddenly learn a lot, become more comfortable discussing sexuality, or become sexually active. Moreover, because the data were collected at different times from different sites, special events such as graduation probably had little effect.

The pretest/second posttest data from the experimental group are compared with pretest/posttest data collected from a similar control group in Dos Pueblos High School. This control group is not a perfect match for the experimental group, but both groups include young teenagers, are predominantly white with some minority representation, and reside in suburban or rural areas. Most important, the elapsed time between the pretests and the second posttests for the experimental group was close to the elapsed time between the pretest and posttest for the control group. Thus, of all the control groups, the Dos Pueblos control group is the best control group for this experimental group.

Impact upon Knowledge

According to Table 15-14 the course increased knowledge. The increase between the pretest and posttest was statistically significant, and the increase between the pretest and second posttest was both statistically significant and significantly greater than that in the control group. The knowledge gain between the pretest and second posttest was greater than the gain between the pretest and first posttest, suggesting that the course may have encouraged the students to continue to learn about the topics in the course.

These data are consistent with the teenagers′ and their parents′ assessments of the course impact. Both groups indicated that the teenagers knew much more because of the course (medians = 4.5 and 4.8, Tables 15-12 and 15-13).

Impact upon Clarity of Values

Table 15-14 also indicates that the course increased clarity of values. There was a statistically significant increase from 3.2 to 3.5 between the pretest and posttest, and a further significant increase to 3.8 on the second posttest. In comparison with all other groups, these are very large gains. The gain between the pretest and second posttest was also significantly greater than that in the control group.

Again these data are consistent with the teenagers' and their parents' assessments of the course. Both groups thought that the course increased the clarity of the teenagers' attitudes and values (Tables 15-12 and 15-13).

Impact upon Attitudes

The data indicate that the course made the teenages feel that birth control is more important if two people are having sex and don't want to have children. According to Table 15-14 there was a statistically significant increase from 4.2 to 4.4 between the pretest and the posttest, and a further increase to 4.6 by the second posttest. These are very large increases. The latter increase was also statistically significantly greater than that of the control group.

These data are supported by the teenagers' course assessments in which they claim that that, because of the course, they feel that birth control is more important (median = 4.4, Table 15-12).

The course had less impact upon attitude toward premarital sex. Scores increased, but not significantly between the pretest and posttest. By the second posttest, the scores had significantly decreased, but the difference between the experimental and control groups was not significant. Thus, the data indicate that the course did not have a significant impact upon attitudes.

Impact upon Skills

According to Table 15-14 the course did not have any impact upon sexual decisionmaking or assertiveness skills. None of the changes was statistically significant. This result is not surprising, because most of the teenagers were too young to be actively dating, and thus they had less need and fewer opportunities to practice their sexual decisionmaking and assertiveness skills.

In their course assessments, teenagers claimed that they make better social decisions because of the course (median = 3.9); parents claimed that their teenagers were more likely to make good decisions (median = 4.4).

Impact upon Comfort with Communication about Sexuality and Current Sex Life

Table 15-15 indicates that the course had no impact upon comfort talking about sex, talking about birth control, talking with parents about sexuality, or having current sex life. There were no significant changes.

In contrast, teenagers claim that they are somewhat more comfortable talking about sexuality with others because of the course (median = 3.9, Table 15-12). Their parents also claim that they are more comfortable talking about sexuality with their teenagers (median = 4.5, Table 15-13).

Impact upon Frequency of Communication

According to Table 15-16, the course had a small impact upon frequency of communication about sexuality. Between the pretest and posttest there were statistically significant increases in communication with parents about both sex and birth control. This is encouraging, but not surprising because these conversations occurred during the course. Of potentially greater importance is the improvement in communication after the course. The number of conversations about sex and birth control between parents and their teenagers decreased after the course, but remained substantially higher than before the course. However, because of the small sample sizes (21 and 15), the pretest/second posttest gains are not significant, nor is the experimental group gain significantly greater than the control group gain.

According to Table 15-16 the course had one unexpected effect; the control group had an increase in communication between boyfriends and girlfriends, while the experimental group had a decrease. Although this difference is statistically significant, its importance is unclear because only a small number of the teenagers in the course had boyfriends or girlfriends or were old enough to need to discuss sex with their boyfriends and girlfriends.

In Table 15-17 are the pretest, posttest, and second posttest scores of the parents. These data are available for this course because the parents also participated in the course.

According to these data, the course had several effects upon conversations about sex; it increased the number of conversations both during and after the course; it increased the average length during, but not after the course; it increased parents' perceptions of their teenagers' comfort during and after the course; and it increased the parents' comfort after the course. All of these results were statistically significant.

The course also appeared to increase the number of conversations about birth control during the course, but not after the course. It had no other apparent impact upon conversations about birth control. Once again, this may have been because the teenagers were younger and parents may have believed that their teenagers would not be using birth control in the forseeable future.

All of these results are consistent with the teenagers' and their parents' assessments of the course impact. Both groups thought that the course increased their communication with one another and also increased their comfort level.

Discussion and Summary of Results of the Course for Older Children

The data support several conclusions:

- Both the teenagers and their parents view the course very positively and consistently give it very high ratings.

- The course significantly increased knowledge both during and after the course.

- Both during and after the course, the course increased the importance that students give to birth control.

- The course had no impact upon sexual decisionmaking and assertiveness skills. This may be due to the fact that the teenagers are young and are not yet involved in social dating that could lead to sex.

- According to both the pretest/posttest data and the course assessments by both teenagers and their parents, the frequency of communication between the teenagers and their parents about sex increased during the course. All the pretest/posttest gains were statistically significant, except for the pretest/second posttest gain for the teenagers which may not have been significant because of the small sample size. The frequency of parent/child communication about sexuality increased substantially during the course, and then tapered off after the course, but remained higher than before the course.

- The comfort level of parents during conversations increased, and the parents thought the comfort level of their teenagers also increased, but the pretest/posttest data from the teenagers indicate that the comfort level did not change. Teenagers, however, in their course assessments claimed that there was a slight increase in their comfort level.

Thus, this course successfully met its major goals of increasing both knowledge and parent/child communication. The teenagers may not have become much more comfortable discussing sex with their parents, but at least the number of conversations increased.

The course apparently had little impact upon behavior, but this is because the teenagers were so young. None of them had had sex at the beginning of the course, and none of them had had sex by the second posttest.

Relative Effectiveness of the Courses for Younger and Older Children

The increases in the knowledge test were greater for the younger children than for the older. There are several possible explanations for this: 1) the knowledge test for the younger students was designed by the teachers and may have focused more directly upon the facts emphasized in class, whereas the test for the older students was a standardized test and may have covered facts given less emphasis in class; 2) the younger students received lower scores on the pretest than the older students and thus had greater potential for improvement; and 3) the course for younger students is taught more effectively.

Both courses increased parent/child communication about sexuality during the course, and although it tapered off after the course, it still remained higher than before the course. Because sample sizes differed considerably and also because parent estimates differed from their children's estimates, it is difficult to ascertain which course was more effective. According to the parents' estimates, the course for younger adolescents had greater longer term effect, while according to the children's estimates, the course for older adolescents had a greater effect.

Table 15-1

Parent Evaluations of the Teachers in the Family Guidance Center Program for Parents and Younger Children[a]

Positive Questions

Median	Question
4.8	1. How enthusiastic was the teacher about teaching this course?
4.8	2. How much important information did the teacher present to the class?
4.7	3. How much did the teacher talk at a level that the students could understand?
4.7	6. How much did the teacher care about the students?
4.9	7. How much respect did the teacher show to the students?
4.7	8. How much did the students trust the teacher?
4.9	9. How well did the teacher get along with the students?
4.8	11. How carefully did the teacher listen to the students?
3.0	12. How much did the teacher discourage hurting others in sexual situations (e.g., knowingly spreading VD or forcing someone to have sex)?
3.8	13. How much did the teacher encourage thinking about the consequences before having sexual relations?
3.8	14. How much did the teacher encourage students to think about their own values about sexuality?
2.8	15. How much did the teacher encourage the use of birth control to avoid unwanted pregnancy?
4.5	16. How much did the teacher encourage students to talk with their parents about sexuality?

Negative Questions

Median	Question
1.1	4. How uncomfortable was the teacher in discussing different things about sex?
1.2	5. How much did the teacher discuss topics in a way that made students feel uncomfortable?
1.4	10. To what extent did the teacher talk too much about what's right and wrong?

[a] N=202

Key: 1=not at all
2=a small amount
3=a medium amount
4=a large amount
5=a great deal

Table 15-2

Parent Evaluations of the Classroom Environment in the Family Guidance Center Program for Parents and Younger Children[a]

Positive Questions

Median	Question
4.2	19. How much did students participate in class discussions?
3.1	20. How much did you participate in class discussions?
4.9	21. How much were students encouraged to ask any questions they had about sex?
4.8	22. How much were you encouraged to ask any questions you had about sex?
4.4	25. How much were you permitted to have values or opinions different from others in the class?

Negative Questions

Median	Question
1.2	17. How bored were the students by the course?
1.1	18. How bored were you by the course?
2.3	23. How much difficulty did the students have talking about their own thoughts and feelings?
2.1	24. How much difficulty did you have talking about your own thoughts and feelings?

[a] N=202

Key: 1=not at all
2=a small amount
3=a medium amount
4=a large amount
5=a great deal

Table 15-3

Parent Summary Evaluations of the Family Guidance Center Course for Parents and Younger Children[a]

Median Scores	
4.9	What is your evaluation of the teacher?
4.8	What is your evaluation of the topics covered in the course?
4.6	What is your evaluation of the materials used, such as books and films?
4.7	What is your evaluation of the organization and format of the program (e.g., length, location, and time)?
4.8	What is your evaluation of the overall program?

[a] N=202

Key:
1=very poor
2=poor
3=average
4=good
5=excellent

Table 15-4

Effects upon Knowledge and Communication of the Family Guidance Center Course for Parents and Younger Children:

Mean Scores on Pretests, Posttests, and 2nd Posttests;
and Significance Levels for Differences between Pretests and Posttests

			Means[a]			Significance[b]
Outcome	Group[c]	N	Pre	1st Post	2nd Post	Pre vs 1st or 2nd Post
Children's Knowledge	E	175	42.2	85.5		.000
	E	107	44.2		85.3	.000
Conversations with Parents about Sex						
Frequency						
Children's estimate	E	114	0.6	4.2		.000
	E	111	0.7		0.9	.046
Parents' estimate	E	141	1.7	6.7		.000
	E	96	1.9		8.2	.000
Average Length						
Children's estimate	E	75	7.9	9.0		NS
	E	65	6.8		6.6	NS
Parents' estimate	E	126	6.7	7.5		NS
	E	93	6.3		7.9	.009
Children's Comfort						
Children's estimate	E	76	2.6	3.1		.000
	E	65	2.8		2.9	NS
Parents' estimate	E	129	3.2	3.4		.023
	E	95	3.2		3.5	.004
Parents' Comfort						
Parents' estimate	E	129	3.3	3.6		.000
	E	95	3.2		3.6	.000
Conversations with Parents about Birth Control						
Frequency						
Children's estimate	E	79	0.1	1.4		.000
	E	67	0.1		0.3	.004
Parents' estimate	E	108	0.1	0.8		.000
	E	77	0.1		1.1	.000
Average Length						
Children's estimate	E					NS
	E					NS
Parents' estimate	E					NS
	E					NS
Children's Comfort						
Children's estimate	E	21	2.7	3.2		NS
	E	17	2.6		3.1	NS
Parents' estimate	E	18	3.3	3.6		.050
	E	13	3.4		3.6	NS
Parents' Comfort						
Parents' estimate	E	18	3.3	3.8		.008
	E	13	3.5		3.8	NS

Footnotes to Table 15-4

[a] The mean scores of the knowledge test are the mean percents of correct answers. The mean scores for the frequency of conversations are the means for the last month. The means for length of conversations are the mean lengths in minutes. The means for comfort are based upon the following key:

Key: 1=very uncomfortable
2=somewhat uncomfortable
3=a little uncomfortable
4=comfortable

This key is the reverse of the key in the questionnaire. The scale was reversed so that larger numbers would represent improvement and be more similar to other scales in the evaluation.

The experimental group completed the pretest at the beginning of the program, first posttests at the end of the program, and second posttests about three to five months later. Because some experimental students did not complete the 2nd posttest, the sample size for the 2nd posttest is smaller, and the data are presented on a separate line.

[b] NS means not significant at the .05 level. All tests of significance are matched-pairs two-tailed t-tests. Smaller numbers represent smaller probabilities of results having occurred by chance. Thus, .000 is the probability rounded to three digits and represents the highest level of significance. If the probability of results having occurred by chance was greater than .050, then the data were considered not significant and were not included in the table.

[c] E is the experimental group. It was not possible to obtain a control group for this age group.

Table 15-5

Parents' Assessment of the Impact upon Their Teenagers of the Family Guidance Center Course for Parents and Younger Children

Median[a]	Question
4.9	1. Does your teenger know less or more about sexuality because of this course?
4.4	2. Are your teenager's attitudes and values about sexuality less or more clear because of this course?
4.7	3. Are you less or more comfortable talking about sexuality with your teenager because of this course?
4.3	4. Have you actually talked about sexuality with your teenager less or more because of this course?
4.2	5. Does your teenager talk and listen to you about sexuality less or more effectively because of this course?
4.3	6. Is your teenager less likely or more likely to make good decisions about social and sexual behavior (e.g. examine alternatives and consider consequences) because of this course?

[a] N=57

Key for Questions:
1=much less
2=less
3=about the same
4=more
5=much more

Table 15-6

Student Evaluations of the Teachers in the Family Guidance Center Course for Parents and Older Children[a]

Positive Questions

Median	Question
4.8	1. How enthusiastic was the teacher about teaching this course?
4.6	4. How much did the teacher talk at a level that the students could understand?
4.8	5. How much did the teacher care about the students?
4.9	6. How much respect did the teacher show to the students?
4.8	7. How much did the students trust the teacher?
4.8	8. How well did the teacher get along with the students?
4.1	9. How much did the teacher encourage the students to talk about their feelings and opinions?
4.8	11. How carefully did the teacher listen to the students?
2.8	12. How much did the teacher discourage hurting others in sexual situations (e.g., knowingly spreading VD or forcing someone to have sex)?
4.8	13. How much did the teacher encourage thinking about the consequences before having sexual relations?
4.6	14. How much did the teacher encourage students to think about their own values about sexuality?
4.4	15. How much did the teacher encourage the use of birth control to avoid unwanted pregnancy?
4.0	16. How much did the teacher encourage students to talk with their parents about sexuality?

Negative Questions

Median	Question
1.2	2. How uncomfortable was the teacher in discussing different things about sex?
1.5	3. How much did the teacher discuss topics in a way that made students feel uncomfortable?
2.3	10. To what extent did the teacher talk too much about what's right and wrong?

[a] N=25

Key:
1=not at all
2=a small amount
3=a medium amount
4=a large amount
5=a great deal

Table 15-7

Student Evaluations of the Classroom Environment in the Family Guidance Center Course for Parents and Older Children[a]

Positive Questions

Median	Question
4.0	18. How much did students participate in class discussions?
3.6	19. How much were you encouraged to ask any questions you had about sex?
4.2	22. How much did you show concern for the other students in the class?
4.1	23. How much did the other students show concern for you?
4.3	24. How much were the students' opinions given in the class kept confidential (i.e., not spread outside the classroom)?
4.4	25. How much were you permitted to have values or opinions different from others in the class?

Negative Questions

Median	Question
1.2	17. How bored were you by the course?
2.2	20. How much difficulty did you have talking about your own thoughts and feelings?
2.5	21. How much difficulty did you have asking questions and talking about sexual topics?

[a] N=25

Key: 1=not at all
2=a small amount
3=a medium amount
4=a large amount
5=a great deal

Table 15-8

Student Summary Evaluations of the Family Guidance Center Course for Parents and Older Children[a]

Median Scores	
4.5	What is your evaluation of the teacher?
4.5	What is your evaluation of the topics covered in the course?
4.2	What is your evaluation of the materials used, such as books and films?
4.2	What is your evaluation of the organization and format of the program (e.g., length, location, and time)?
4.2	What is your evaluation of the overall program?

[a] N=25

Key: 1=very poor
2=poor
3=average
4=good
5=excellent

Table 15-9

Parent Evaluations of the Teachers in the Family Guidance Center Course for Parents and Older Children[a]

Positive Questions

Median	Question
4.9	1. How enthusiastic was the teacher about teaching this course?
4.9	2. How much important information did the teacher present to the class?
4.7	3. How much did the teacher talk at a level that the students could understand?
4.8	6. How much did the teacher care about the students?
4.9	7. How much respect did the teacher show to the students?
4.8	8. How much did the students trust the teacher?
4.9	9. How well did the teacher get along with the students?
4.8	11. How carefully did the teacher listen to the students?
4.5	12. How much did the teacher discourage hurting others in sexual situations (e.g., knowingly spreading VD or forcing someone to have sex)?
4.8	13. How much did the teacher encourage thinking about the consequences before having sexual relations?
4.7	14. How much did the teacher encourage students to think about their own values about sexuality?
4.5	15. How much did the teacher encourage the use of birth control to avoid unwanted pregnancy?
4.7	16. How much did the teacher encourage students to talk with their parents about sexuality?

Negative Questions

Median	Question
1.1	4. How uncomfortable was the teacher in discussing different things about sex?
1.2	5. How much did the teacher discuss topics in a way that made students feel uncomfortable?
1.3	10. To what extent did the teacher talk too much about what's right and wrong?

[a] N=202

Key:
1=not at all
2=a small amount
3=a medium amount
4=a large amount
5=a great deal

Table 15-10

Parent Evaluations of the Classroom Environment in the Family Guidance Course for Parents and Older Children[a]

Positive Questions

Median	Question
4.3	19. How much did students participate in class discussions?
3.0	20. How much did you participate in class discussions?
4.8	21. How much were students encouraged to ask any questions they had about sex?
4.8	22. How much were you encouraged to ask any questions you had about sex?
4.6	25. How much were you permitted to have values or opinions different from others in the class?

Negative Questions

Median	Question
1.2	17. How bored were the students by the course?
1.1	18. How bored were you by the course?
2.6	23. How much difficulty did the students have talking about their own thoughts and feelings?
2.6	24. How much difficulty did you have talking about your own thoughts and feelings?

[a] N=78

Key: 1=not at all
2=a small amount
3=a medium amount
4=a large amount
5=a great deal

Table 15-11

Parent Summary Evaluations of the Family Guidance Center Course for Parents and Older Children[a]

Median Scores	
4.9	What is your evaluation of the teacher?
4.8	What is your evaluation of the topics covered in the course?
4.4	What is your evaluation of the materials used, such as books and films?
4.6	What is your evaluation of the organization and format of the program (e.g., length, location, and time)?
4.8	What is your evaluation of the overall program?

[a] N=202

Key: 1=very poor
2=poor
3=average
4=good
5=excellent

Table 15-12

Student Assessments of the Impact of the Family Guidance Center Course for Parents and Older Children

Median[a]	Question
4.5	1. Do you know less or more about sexuality because of this course?
4.3	2. Do you now have less or more understanding of yourself and your behavior because of this course?
4.1	3. Are your attitudes and values about your own sexual behavior less or more clear because of this course?
4.4	4. Because of this course, do you now feel that using birth control when people are not ready to have children is less important or more important?
3.7	5. Do you talk about sexuality (e.g., going out, having sex, birth control, or male and female sex roles) with your friends less or more because of this course?
3.0	6. Do you talk about sexuality with your boy/girlfriend less or more because of this course?
3.7	7. Do you talk about sexuality with your parents less or more because of this course?
3.9	8. When you talk about sexuality with others (such as your friends, boy/girlfriend, and parents) are you less or more comfortable because of this course?
4.0	9. Do you now talk about sexuality less or more effectively (i.e. are you more able to talk about your thoughts, feelings, and needs and to listen carefully)?
4.1[b]	10. Are you less or more likely to have sex because of this course?
4.6	11. If you have sex, would you be less or more likely to use birth control because of this course?
4.3	12. If you have sex, would you be less comfortable or more comfortable using birth control because of this course?
4.1	13. Overall, do you now have less or more respect for yourself because of this course (i.e., do you have better feelings about yourself)?
3.6	14. Are you now less or more satisfied with your social behavior (e.g., going out and forming relationships) because of this course?
3.6	15. Because of this course, are you now less or more satisfied with your current sex life whatever it may be (it may be doing nothing, kissing, petting, or having sex)?
3.9	16. Do you now make worse or better decisions about your social life (e.g., going out and forming relationships) because of this course?
4.0	17. Do you now make worse or better decisions about your physical sexual behavior because of this course?
3.5	18. Do you now get along with your friends worse or better because of this course?

Footnotes to Table 15-12

[a] N=72

Key for Questions 1 to 15:	Key for Questions 16 to 18:
1=much less	1=much worse
2=somewhat less	2=somewhat worse
3=about the same	3=about the same
4=somewhat more	4=somewhat better
5=much more	5=much better

[b] For all questions, except #10, a median greater than 3.0 represents a positive change and a median less than 3.0 represents a negative change. For Question 10, the reverse is true.

Table 15-13

Parents' Assessment of the Impact upon Their Teenagers of the Family Guidance Center Course for Parents and Older Children

Median[a]	Question
4.8	1. Does your teenger know less or more about sexuality because of this course?
4.3	2. Are your teenager's attitudes and values about sexuality less or more clear because of this course?
4.5	3. Are you less or more comfortable talking about sexuality with your teenager because of this course?
4.1	4. Have you actually talked about sexuality with your teenager less or more because of this course?
3.9	5. Does your teenager talk and listen to you about sexuality less or more effectively because of this course?
4.4	6. Is your teenager less likely or more likely to make good decisions about social and sexual behavior (e.g. examine alternatives and consider consequences) because of this course?

[a] N=27

Key for Questions:
1=much less
2=less
3=about the same
4=more
5=much more

Table 15-14

Effects upon Knowledge, Attitudes, and Skills
of the Family Guidance Center Course for Parents and Older Children:
Mean Percent Correct on Pretests, Posttests, and 2nd Posttests;
and Significance Levels for Differences between Pretests and Posttests
and between Experimental and Control Group Changes

			Means[a]			Significance[b]	
Outcome	Group[c]	N	Pre	1st Post	2nd Post	Pre vs 1st or 2nd Post	Change in E-Group[d] vs Change in C-Group
Knowledge	E	93	52.5	67.5		.000	NA
	E	30	56.3		76.7	.000	.000
	C	65	68.3		72.5	NS	
Clarity of Personal Sexual Values	E	83	3.2	3.5		.000	NA
	E	25	3.2		3.8	.000	.002
	C	57	3.8		3.9	NS	
Attitude toward the Importance of Birth Control	E	89	4.2	4.4		.001	NA
	E	29	4.2		4.6	.005	.005
	C	59	4.5		4.5	NS	
Attitude toward Premarital Intercourse	E	88	3.2	3.3		NS	NA
	E	28	2.7		2.3	.027	NS
	C	59	2.8		2.9	NS	
Sexual Decisionmaking Skills	E					NS	NA
	E					NS	NS
	C					NS	
Assertiveness Skills	E					NS	NA
	E					NS	NS
	C					NS	

Footnotes to Table 15-14

[a] The mean scores of the knowledge test are the mean percents of correct answers. The means of the clarity of values and the attitudes are based upon five 1-5 Likert type scales. The mean scores of the skills are based upon multi-item indices. Both the attitudes and the skills are scored so that the final scales have a possible range of 1 to 5 and increases represent improvements.

The experimental group completed the pretest at the beginning of the program, first posttests at the end of the program, and second posttests about three to four months later. Because the elapsed time between the pretest and first posttest was so short, there was no control group for the pretest and first posttest. For the pretest and second posttest data there was a control group. The elapsed time between the experimental pretest and second posttest and the control pretest and posttest are about the same. Because some experimental students did not complete the 2nd posttest, the sample size for the 2nd posttest is smaller, and the data are presented on a separate line.

[b] NA means not appropriate because there was no control group for the pretest and first posttest data. NS means not significant at the .05 level. All tests of significance are matched-pairs two-tailed t-tests. Smaller numbers represent smaller probabilities of results having occurred by chance. Thus, .000 is the probability rounded to three digits and represents the highest level of significance. If the probability of results having occurred by chance was greater than .050, then the data were considered not significant and were not included in the table.

[c] E is the experimental group. C is the control group from Dos Pueblos High School.

[d] This column is the significance of the difference between the change in the experimental group and the change in the control group. The change in each group is either the first posttest minus the pretest or the second posttest minus the pretest.

Table 15-15

Effects upon Comfort with Different Activities of the Family Guidance Center Course for Parents and Older Children:
Mean Scores on Pretests, Posttests, and 2nd Posttests;
and Significance Levels for Differences between Pretests and Posttests
and between Experimental and Control Group Changes

			Means[a]			Significance[b]	
Outcome	Group[c]	N	Pre	1st Post	2nd Post	Pre vs 1st or 2nd Post	Change in E-Group[d] vs Change in C-Group
Comfort	E					NS	NA
Talking	E					NS	NS
about Sex	C					NS	
Comfort	E					NS	NA
Talking	E					NS	NS
about	C					NS	
Birth Control							
Comfort	E					NS	NA
Talking with	E					NS	NS
Parents about	C					NS	
Sexuality							
Comfort	E					NS	NA
Having	E					NS	NS
Current	C					NS	
Sex Life							

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[a] The means are based upon the following key:

Key: 1=very uncomfortable
2=somewhat uncomfortable
3=a little uncomfortable
4=comfortable

This key is the reverse of the key in the questionnaire. The scale was reversed so that larger numbers would represent improvement and be more similar to other scales in the evaluation. See the second paragraph of footnote a in Table 15-14.

[b] See footnote b in Table 15-14.
[c] See footnote c in Table 15-14.
[d] See footnote d in Table 15-14.

Table 15-16

Effects upon Frequency of Conversations about Sexuality of the Family Guidance Center Course for Parents and Older Children:

Mean Scores on Pretests, Posttests, and 2nd Posttests;
and Significance Levels for Differences between Pretests and Posttests
and between Experimental and Control Group Changes

			Means[a]			Significance[b]	
Outcome	Group[c]	N	Pre	1st Post	2nd Post	Pre vs 1st or 2nd Post	Change in E-Group[d] vs Change in C-Group
Frequency of conversations about sex with parents	E	67	0.9	2.5		.000	NA
	E	21	1.0		1.9	NS	NS
	C	62	1.0		1.0	NS	
Frequency of conversations about sex with friends	E	62	3.1	4.4		.026	NA
	E	18	4.4		4.3	NS	NS
	C	61	2.3		3.7	NS	
Frequency of conversations about sex with boy/girlfriend	E	67	0.4	0.7		NS	NA
	E	15	1.3		0.9	NS	.038
	C	64	0.8		1.6	.028	
Frequency of conversations about birth control with parents	E	67	0.1	0.9		.000	NA
	E	15	0.1		0.8	NS	NS
	C	61	0.3		0.5	NS	
Frequency of conversations about birth control with friends	E					NS	NA
	E					NS	NS
	C					NS	
Frequency of conversations about birth control with boy/girlfriend	E					NS	NA
	E					NS	NS
	C					NS	

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[a] All mean scores are the means of the frequencies for the last month. See the second paragraph of footnote a in Table 15-14.

[b] See footnote b in Table 15-14.

[c] See footnote c in Table 15-14.

[d] See footnote d in Table 15-14.

Table 15-17

Parental Perceptions of the Effects upon Communication of the Family Guidance Center Course for Parents and Older Children:
Mean Scores on Pretests, Posttests, and 2nd Posttests;
and Significance Levels for Differences between Pretests and Posttests

			Means[a]			Significance[b]
Outcome	Group[c]	N	Pre	1st Post	2nd Post	Pre vs 1st or 2nd Post
Conversations about Sex						
Frequency	E	50	1.3	5.3		.000
	E	32	1.7		3.5	.000
Average Length	E	47	6.1	10.3		.008
	E	33	6.6		7.0	NS
Children's Comfort	E	60	2.9	3.2		.009
	E	39	3.1		3.6	.000
Parents' Comfort	E	61	3.4	3.6		NS
	E	38	3.4		3.8	.002
Conversations about Birth Control						
Frequency	E	40	0.3	1.4		.001
	E	22	0.4		0.6	NS
Average Length	E					NS
	E					NS
Children's Comfort	E					NS
	E					NS
Parents' Comfort	E					NS
	E					NS

[a] See footnote a in Table 15-4.
[b] See footnote b in Table 15-4.
[c] E is the experimental group. There were no control groups for parents.

CHAPTER 16

ST. PAUL MATERNAL AND INFANT CARE SEXUALITY EDUCATION AND CLINIC PROGRAM

Description of the Program

Background

The Maternal and Infant Care (MIC) program in St. Paul, Minnesota has three components, a sexuality education program in junior and senior high schools, clinics in high schools, and day care centers in high schools.

In 1971 the Department of Obstetrics and Gynecology of St. Paul-Ramsey Medical Center, the Maternal and Infant Care Project, and the St. Paul Public School began planning a program for the schools. Their committees also included representatives from students, parents, school faculty, and other community agencies. After the Superintendent of Schools endorsed the idea of a clinic within a school, the committees continued their planning, submitted proposals to the school board, secured funding for the program, presented the plans to the community, and then sought approval from the school board. Various groups raised concerns about whether the clinic would take staff, money, space or other resources away from the educational purpose of the school; whether the program would affect the school's image; whether clinic visits would be confidential or parents would be notified; and whether students would be hesitant to use the clinic because it would indicate they were sexually active. The school board unanimously approved the proposals with the understanding that the program would be reviewed annually, that the school principal would be responsible for it, that the community would continue to serve on the advisory committee, that the program would not impinge on normal school educational functions, and that contraceptives would not be issued in the clinic. Two months later in 1973 the clinic opened.

The initial clinic opened in Mechanic Arts High School, an inner city junior-senior high school. About 40 percent of its students were minority students. The school converted a storage room off the school cafeteria. Initially the clinic offered contraceptive information and counseling, pregnancy testing, prenatal and postpartum care, STD testing and treatment, and pap smears. Despite informal discussions between numerous students and the nurse clinician, only a few patients registered for care during the spring term. The clinic nurse made many efforts to increase students' comfort with the clinic by informally meeting with students in areas they frequented, making classroom presentations to explain the services, attending athletic and other school events, and being available after school hours. As a result, students' comfort with using the clinic gradually increased and clinic utilization gradually increased. However, it nevertheless remained too low because of the stigma attached to using the clinic.

Consequently, the clinic increased its services to include athletic, job, and college physicals, immunizations, and a weight control program. It also opened its services to the faculty; moved to an attractive renovated classroom;

and changed appointments to a drop-in basis. These changes definitely facilitated a more positive attitude among students, faculty, and parents, and increased anonymity. Clinic utilization then improved rapidly. Within three years about two-thirds of the students used the clinic; males and females used it equally.

In 1976 the school district reorganized; Mechanic Arts High School closed, and its students transferred to two other high schools, Washington and Central. The staff then opened clinics in the two new schools. At first, the Washington clinic was open only two afternoons each week because of limited funds. However, as the demand increased, the staff obtained greater funding and opened the clinic for four mornings each week.

In 1979 there was another district reorganization; Washington Senior High School became a junior high school; and the Washington students transferred to Como High School. At this time, both Como and Central High Schools were substantially remodeled and included more complete clinic and day care facilities. The clinics then began offering a full range of clinic and day care services each school day.

In 1980 and 1982 local foundations and the Office of Adolescent Pregnancy provided additional funding to open up clinics in two additional high schools. One of them serves as a magnet school for all students with physical and emotional handicaps.

During most of the years the clinic has been open, the staff has provided education in the areas of prenatal care, parenting, and sexuality education. In 1979 they began providing sexuality education to two junior high schools that feed into the high schools with clinics. Since then, they have been expanded to other junior high schools.

Goals

The program has five major goals:

- to improve the physical, social, and emotional well being of students, student-parents, and their children
- to provide educational opportunities for students in order to prepare them for responsible and independent adult and family lives
- to reduce the incidence of unwanted and repeated adolescent pregnancies
- to provide optimum prenatal care to the pregnant adolescent in order to promote positive outcomes for mother and infant
- to provide comprehensive services for student parents to reduce the drop-out rate and to facilitate completion of high school

Education Component

The program has included units on sexuality and family life education, prenatal care, parenting skills, nutrition and exercise, and chemical dependency.

The sexuality and family life education unit is taught to grades 7 through 9 in some of the junior high schools that feed into the high schools and to the 10th grade in the high schools. It lasts three to four weeks depending upon the school and class. Commonly it is taught during a health class. It covers the following curriculum:

Week 1

Introduction and overview, questions and input from students
Sex roles and sexual stereotypes -- impact of the media
Varieties of sexual expression
Homosexuality

Week 2

Levels of sexual expression
- different ways of expressing affection
- impact of peer pressure
- identification of personal values and standards

Teen sexuality and pregnancy
- decisionmaking about relationships
- decisionmaking about sexual activity
- decisionmaking about pregnancy
- alternatives and consequences of sexual activity
- problems involved in teenage parenting

Sexually transmitted diseases

Week 3

Family planning
Pregnancy
- fetal development
- labor and delivery

Birth defects
- impact of exercise and proper nutrition
- impact of alcohol, drugs, and smoking

Prenatal care

Week 4

Child abuse and incest
- affection versus exploitation
- problems and resources

Acquaintance rape
- methods of being assertive
- methods of avoiding rape
- resources

Anticipatory parenting
- advantages and disadvantages of being a young parent
- responsibilities of being a parent
- personal goals for the future
- Are you ready to be a parent?

Wrap-up and review

One important aspect of the sexuality unit is that it informs the students of the availability of services at the clinics and enables the students to meet the members of the clinic staff who teach the units.

Clinic Services

The clinic provides a wide variety of services including:

- physical examinations
- immunizations
- family planning services
- pregnancy testing
- prenatal care
- testing and treatment of sexually transmitted diseases
- weight control counseling
- dental health services
- social work assistance
- WIC nutritional assistance

When students seek family planning services, they are encouraged to remain abstinent if they are not already having sex, and if they are having sex, they are presented with all the methods of birth control including abstinence. A survey conducted by the clinic in 1979 indicated that about 85 percent of the students had been sexually active for at least a year before coming to the clinic. Thus, most students choose a method of contraception.

The clinic staff do not actually provide contraceptives in the school clinic. However, in the clinic they do counsel students on family planning and conduct gynecological exams. They then send the students to the teen clinic at the St. Paul-Ramsey Medical Center where they pick up their contraceptive supplies. These supplies include three months of birth control pills, if that is the selected method of birth control. Finally, back at the school clinic, the clinic staff meet with the student, first one week after the hospital visit and then monthly to check for any side effects, to make sure the method is being used correctly, and to answer any questions.

Each school has its own team providing the health care services. This team typically includes several part-time physicians, a nurse practitioner, a social worker, a clinic attendant, a nutritionist, a dental hygienist, and a health educator. The nurse practitioner is the person primarily responsible for all prenatal patients.

The nurse practitioner is at the clinic five days per week; the physicians are there on a weekly or biweekly basis. Thus, students may stop by any time for family planning counseling, education, and referral; STD testing and treatment; pregnancy testing; Pap smears; immunizations; and personal counseling and referral. They need appointments for physicals and other medical examinations that require the presence of a physician. If the students need specialized procedures, tests, or consultations, these are conducted at the St. Paul-Ramsey Medical Center. At the school clinics students are normally seen promptly so that they do not miss much class time. Because the clinic is on campus and has the students' schedules, it can easily contact the students and have them come in for followup appointments when needed.

The clinic obtains parental consent for the family planning services and other services by sending a form letter home to parents (or guardians) of all entering students. This consent form specifies the different services offered, and gives parents the option of providing consent for all services or only specific types of services. Most parents provide consent for all services.

Day Care Services

The school offers day care services to children of registered students. The children only need to be six weeks old to participate in the program. The day care center has separate rooms in the school with a wide variety of educational games, toys, and other resources for the children.

The center has an early education program that helps adolescents complete high school and learn good parenting skills. The student mothers must participate in a child development class for which they receive one credit. Each week, the class emphasizes different concepts in child development.

There is also an individualized plan of care for the child and training for the parent for each child and parent in the program. In addition any student in the school may register to work in the day care center for credit.

Administration of the Program

The program is administered by the St. Paul-Ramsey Medical Center. However, the clinics and day care centers are immediately responsible to the school principals. This arrangement facilitates integration of the clinic into each school.

Also overseeing the program is an administrative committee which includes the Deputy Superintendent, the Assistant Superintendent of Secondary and Elementary Education, the Director of School Health Services, the Director of Curriculum, the Director of Home Economics/Vocational Education, the school principals, and selected clinic staff. This committee meets regularly to assess the program and plan for future developments.

At each school there is also a local advisory board chaired by the principal and composed of parents, students, school faculty and staff, interested community members, and representatives of local service providers. These advisory boards determine some of the specific procedures for each program so that they work well within the school setting.

Within the schools clinic services are integrated into other school programs. For example, there are mutual referral relationships between the clinic staff and school staff; the clinic staff teach units in some of the schools' courses; and the clinic staff work closely with the school nurse.

In sum, appropriate medical, educational, and community groups are involved in the overseeing of the program. The program maintains community support by maintaining a policy of openness to the public and receiving direction from these community groups.

Evaluation of the Effects of the Program

The education and clinic programs were evaluated in two ways. First, knowledge tests were administered to students in the junior and senior high schools at the beginning and at the end of the sexuality unit. It was not possible to administer other questionnaires, to administer second posttests, or to administer questionnaires to a control group.

However, the results indicate that the knowledge test scores increased 34 percentage points. This was statistically significant at the .001 level.

Second, and perhaps more important, the schools and the clinics kept health and enrollment records for the teenagers. From these records the clinic staff have tallied the following figures on an annual basis: percentage of students using the clinic for any purpose, the percentage of female students obtaining family services from the clinic, the number of births, and the fertility rate. In turn, these data enable us to compare, for example, the fertility rate when the clinic just opened and served only a few students with the fertility rate several years later when the clinic served many students. Because this comparison is based upon births and not upon pregnancies, the data are probably rather complete and valid. However, if there is any bias, it is probably a conservative bias that would tend to obscure an impact. That is, the clinics were undoubtedly more likely to fail to record births when they first opened and served only a few students than several years later when they were better established, were better staffed, and served many students.

At Mechanic Arts High School between 1973 when the clinic opened and 1976 when it closed the fertility rates dropped from 79 to 35 births per 1,000. This is based upon 1,002 students and represents a decline of 56 percent. Of the girls who delivered and kept their children, the high school dropout rate dropped from 45 percent to 10 percent. The use of contraceptives by these adolescent mothers increased to 100 percent.

The annual data for Washington/Como and Central High Schools are presented in Tables 16-1 to 16-4. Table 16-1 indicates that between 1976 and 1983 the percentage of students using the clinic increased from none before the clinic opened to 77 percent. This increase was continual, except in 1979-1980 when high school students moved from the Washington school to the Como school and the Como clinic was under construction for a while and in 1981-1982 when budgets were cut. This indicates that most years the clinic was accepted by an increasingly large percentage of the students.

Table 16-2 indicates that the percentage of female students that received family planning services from the clinics increased during several years, but decreased when budgets were cut. Although some of the students obtaining family planning services from the clinic would have obtained some form of contraception from other sources, undoubtedly not all of the students would have used effective methods of birth control, and this substantial increase in contraceptive utilization strongly suggests that the clinic reduced the amount of unprotected intercourse.

In 1979 and 1982, the staff estimated contraception continuation rates using the life-table method. For 1979 the 12 month continuation rate for the students was 93 percent, while the 24 month continuation rate was 90 percent. The respective figures for 1982 are 93 percent and 82 percent. All of these rates are much higher than the rates for similar adolescents elsewhere. They demonstrate that most students continue to use a method of birth control. These high rates partially reflect the ability of the clinic to follow-up students in the school and make sure the methods are effective for the students.

Table 16-3 presents the number of births to the students each year. About 1980 a large number of southeast Asians began attending the high schools. A large percentage of these southeast Asians became pregnant, regardless of whether or not they attended the high schools. Consequently, the number of births and the fertility rates began to rise. When the clinic staff recognized this trend, they began collecting separate data, which are presented in the Table.

According to Table 16-3, the actual number of births among non-southeast Asians continually decreased from 75 in 1976-1977 to 23 in 1979-1980, and then increased somewhat in 1981-1982 when budget cuts reduced staffing and the provision of services. Although the percentage decrease depends upon which years are chosen, the births did decrease by about half.

Because the number of births is affected both by the number of female students in school and by the sexual and contraceptive practices of each student, a better measure is the fertility rate (the number of births per 1,000 female students).

The fertility rates are presented in Table 16-4. They indicate that among non-southeast Asians, the fertility rates dropped by about half; again the exact percentage drop depends upon the year selected. There is, of course, no control group for the program, but nationally there has not been a similar decrease in births, and there do not appear to be any other factors that would explain the decrease in births. Thus, the data strongly indicates that the program substantially reduced birth rates.

This raises the question of whether the program is also reducing unintended pregnancies. It is difficult to estimate the number of pregnancies, because students may have abortions without notifying the clinic. Although the clinic obtained some information about pregnancies that were not carried to term, it was far more likely to obtain such information when it had been in operation for several years, served most of the students, and provided pregnancy tests to most of the students. It was far less likely to obtain such information when it first opened and served only a few students. Thus, it is not possible to accurately estimate pregnancies over time.

However, the data in 1980-1981 are very illuminating. In that year there were 76 pregnancy tests and only 20 positive outcomes. Of those 20 pregnancies, 2 were terminated either artificially or naturally and 18 went to term. This strongly suggests that the birth rates are declining not because of an increase in abortions, but because of a decline in pregnancies. It also indicates that the program is most probably reducing abortions.

During all the years, 87 percent of all the adolescent mothers remained in school after delivery. This is a much higher percentage than before the program was implemented, and much higher than national averages. Of those mothers who remained in school, only 1.4 percent had a repeat pregnancy within two years. This figure is also much less than repeat rates found elsewhere.

Summary

The combination sexuality education/health clinic program at Washington/Como and Central High Schools appears to have substantially increased the percentage of female students using birth control and to have reduced the number of births, the percentage of girls who drop out of school once they become pregnant, and the number of repeat pregnancies. This is an impressive achievement and appropriately, this program has received national acclaim among both liberal and conservative groups.

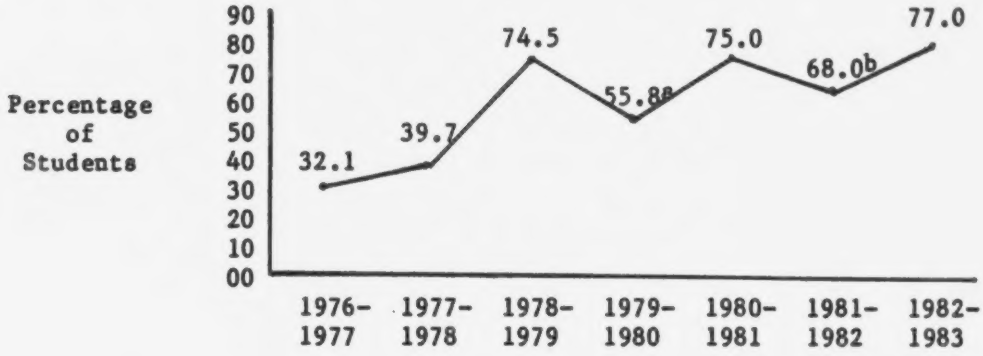
There are numerous reasons why the clinic is especially successful at providing family planning services and reducing unintended pregnancies:

- It is extremely accessible -- adolescents don't have to take a bus or drive to another part of town.
- It is familiar -- many students are in the clinic for other reasons and become familiar with it.
- It is continually available -- students do not have to make an appointment for family planning counseling or other services. In other studies, adolescents have given as their primary reason for not obtaining contraception that they just didn't get around to it. If they are only briefly motivated to use contraception, they can walk into the clinic and be counseled.
- Obtaining contraceptive services is anonymous and there is no stigma attached.
- The clinic personnel are fully accustomed to working with the school population and are especially skilled at working with that population. They were hired for that population and work with them daily.
- If students come to the clinic ostensibly for other reasons, the clinic staff can take the opportunity to see if the student wants to discuss sexual behavior and birth control.
- The clinic staff can work with adolescents on a one-to-one basis, can answer their individual questions, and can counsel them.
- If a student chooses to become sexually active and to use birth control, the clinic staff can counsel the student on different kinds of birth control, conduct a gynecological exam, and later meet with the student at the hospital for the dispensation of contraceptives.
- If a students selects a method of contraception, the clinic staff meets with that student first one week after getting the method of contraception and then monthly to make sure that the student fully understands the method, is using it properly, and is not having any negative side effects.

Although this program, like all clinic programs, costs a substantial amount to develop and maintain, it costs taxpayers far less than the costs of the unintended pregnancies, the premature births and their complications, and the high school dropouts that it prevented. Thus, it is cost effective and there is a net savings. Moreover, some of the services it provides would have been provided by other agencies elsewhere. Thus, to a considerable extent the program does not require additional funds, but rather the shifting of funds from other agencies or sites to the school clinics. Because of their location in the schools, the clinics appear to be able to provide services to teenagers more effectively than non-school clinics.

Table 16-1

Percentage of Students Using the Washington/Como, and Central Clinics

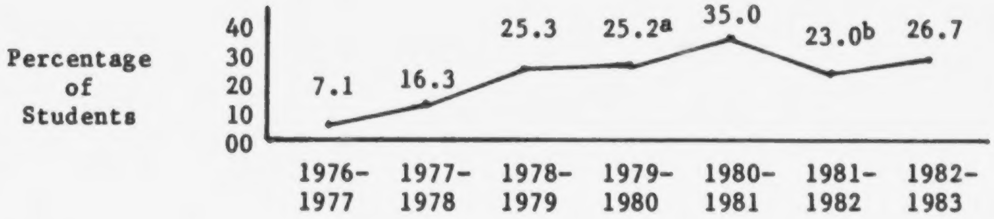


[a] During the 1979-1980 school year, the shift from the Washington clinic to the Como clinic, the construction of the new clinic, and the shift in student populations contributed to the temporary decrease in the percentage of students using the clinic.

[b] During the 1981-1982 school year, there were substantial budget cutbacks that reduced the staff time for that year.

Table 16-2

Percentage of Female Students Using the Washington/Como, and Central Clinics for Family Planning Services

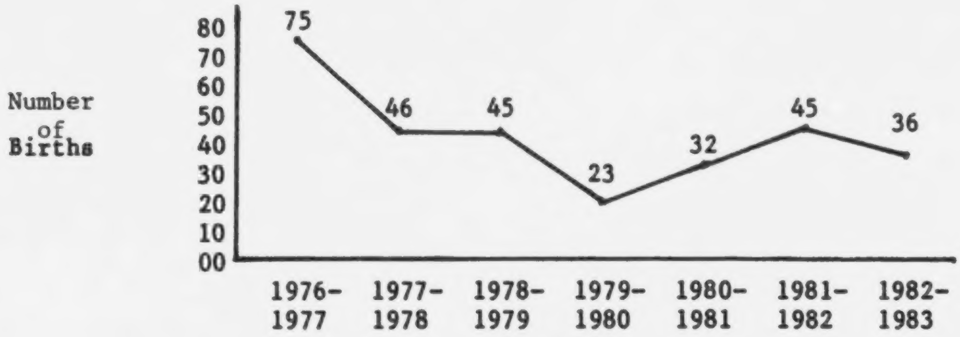


[a] During the 1979-1980 school year, the shift from the Washington clinic to the Como clinic, the construction of the new clinic, and the shift in student populations contributed to the small decrease in the percentage of students using the clinic for family planning services.

[b] During the 1981-1982 school year, there were substantial budget cutbacks that reduced the staff time for that year.

Table 16-3

Number of Births at the Washington/Como, and Central High Schools[a]

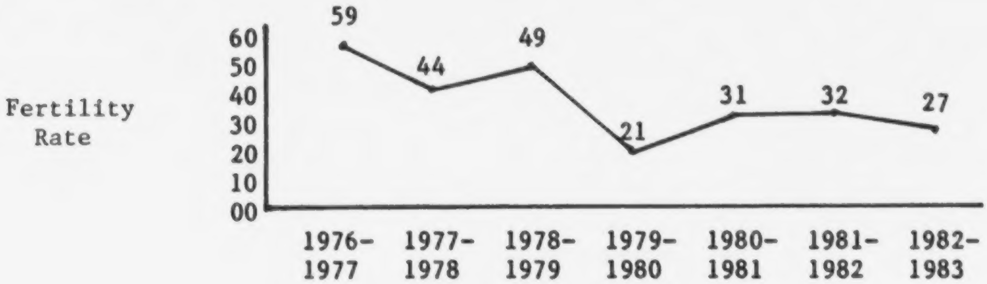


[a] During the 1981-1982 school year, there were substantial budget cutbacks that reduced the staff time for that year.

During the last two or three years of data, a large number of southeast Asians with high birth rates began attending the high school. To make the data more comparable over time, the Southeast Asians are removed from the figures for the academic years 1981-1982 and 1982-1983, when they had their greatest impact upon the rates.

Table 16-4

Combined Fertility Rate (Births/1,000 Females) at Washington/Como, and Central High Schools[a]



[a] During the 1981-1982 school year, there were substantial budget cutbacks that reduced the staff time for that year.

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CHAPTER 17

STATISTICAL SUMMARY OF LONGER PROGRAMS AND SHORTER PROGRAMS

Introduction

The previous chapters have evaluated each of the programs individually; this chapter divides the programs into two different groups and analyzes the effects of each group.

There are both advantages and disadvantages to combining data from different programs and evaluating the groups of programs. On the positive side, combining data from several sites can:

- increase the total sample size and thereby increase the chances that small effects will be statistically significant
- reduce the impact of methodological problems (e.g., poor questionnaire administration) or unusual outside events (e.g. senior proms) that may have affected the results at one site
- give better summary data for the impact of sexuality education programs.

On the negative side, grouping sites necessarily involves putting into one group programs with somewhat different goals, different teaching approaches, and different structures. If one program is effective and the others in the group are not, the summary data for the group of programs may obscure the effectiveness of the one program. Consequently, in this report we present the impact of programs both individually and collectively and compare the results of the two kinds of approaches.

We analyzed two major groups of programs:

- Longer, more comprehensive programs
    - University City High School junior and senior course
    - Council Rock High School junior course
    - Council Rock High School senior seminar
    - George Mason High School freshman course
    - Ferndale High School junior and senior course

- Shorter programs
    - Family Guidance Center five day course for schools
    - Planned Parenthood of San Antonio six day course for schools
    - Lakeview Center's Life Style program for youth groups
    - Family Guidance Center conferences
    - Planned Parenthood League of Massachusetts conferences
    - Planned Parenthood of San Antonio peer education program
    - Family Guidance Center parent/child program for older adolescents

All of the programs in the first group last at least one semester, cover most topics in a comprehensive manner, were developed by the schools, and are taught by the school teachers. In contrast, the programs in the second group last about five or six hours and are thus shorter, necessarily cover fewer topics in a less comprehensive manner, were developed by non-school youth serving agencies, and are taught either in or out of schools by the agencies' teachers or counselors.

These two groups of programs include most of the programs, but do exclude the George Mason High School senior seminar and the Ferndale sexuality units for grades 6 through 10. These programs were not included because their questionnaire data differed in some important way from the data in these two groups.

Participants in the longer programs completed the longer separate questionnaires, while participants in the shorter programs completed the integrated questionnaires.

We compared these programs with control groups which also grouped sites together. For the control group for the first group of programs, we combined the control groups from University City High School, Council Rock High School, and Dos Pueblos High School. For the control group for the second group of programs, we combined the control groups from San Antonio Planned Parenthood, University City High School, Council Rock High School, and Dos Pueblos High School.

The sexuality education courses in the first group of programs lasted either one semester or one academic year. Consequently, we combined the pretest and second posttest data for the one semester programs with the pretest and posttest data for the year long programs. That is, we used pretests administered at the beginning of the fall semester and posttests administered at the end of the spring semester, regardless of whether the spring administrations were first or second posttests.

For the shorter programs, all pretests were administered at the beginning of the program, all first posttests at the end, and all second posttests about three to four months later.

We selected the appropriate data from the control groups so that the duration of time between the pretests and posttests matched the elapsed time in the experimental groups.

Among the longer programs, the Council Rock High School junior course had far more participants than any of the other courses and a couple of the courses had only a small number of participants. To prevent the Council Rock High School junior course from dominating the data and making it resemble the analysis of that site, we weighted the participants from each site so that all the sites were aproximately equal.

Effects of the Longer More Comprehensive Programs

Impact upon Knowledge

According to Table 17-1, the courses did increase overall knowledge. The pretest/posttest comparison was significant and the increase of the experimental group was significantly greater than that of the control group. The increase in the experimental group was about 11 percentage points, while the increase in the control group was about 7 percentage points.

The courses also had a significant impact upon three sub-scales in the knowledge test: adolescent social and sexual activity, birth control, and sexually transmitted diseases. However, in five knowledge areas -- physical development and reproduction, adolescent relationships, adolescent pregnancy, adolescent marriage, and probability of becoming pregnant, the experimental group had significant increases over time, but these increases were not significantly greater than their respective increases in the control group.

Impact upon Self Understanding

Table 17-2 suggests that the sexuality courses had little impact upon self understanding. It indicates that the control group had a greater increase in clarity of long term goals, but as noted in a previous chapter, this is probably because one of the three control groups, the Council Rock control group, settled their post graduation college plans during their senior year and thus undoubtedly had clearer plans and goals for their future. The table also indicates that members of the control group had a significantly greater understanding of their personal sexual response. There were increases in both groups, but the increase in the control group was significantly greater. However, the greater increase was just barely significant. Finally, the table indicates that there were significant increases in the experimental group in clarity of personal sexual values, understanding of emotional needs, and understanding of personal social behavior, but that these increases were not significantly greater than those in the control group.

Impact upon Attitudes

According to Table 17-2, the sexuality courses prevented the students' attitudes from becoming more sexually permissive. That is, the attitudes of the sexuality students toward the morality of premarital sex did not change during the nine month period, while the attitudes of the control group became significantly more permissive. From other studies we know that the attitudes of students toward sex become more permissive as they grow older. This is reflected in the control group. The fact that the attitudes of the sexuality students did not change suggests that the course may have had a conservative impact upon them.

Table 17-2 also indicates that the course made the students more opposed to the use of pressure and force in sexual behavior. There was a significant change among the sexuality students, but not among the control students.

Finally, the data in Table 17-2 indicate that the sexuality course did not have an impact upon attitudes toward gender roles, sexuality in life, the importance of birth control, or the importance of the family.

Impact upon Self Esteem and Satisfaction with Sexuality and Social Relationships

According to Table 17-2 the sexuality courses did not have any impact upon self esteem, satisfaction with personal sexuality, or satisfaction with social relationships. There were changes in the sexuality classes, but there were also similar changes in the control groups.

Impact upon Skills

Table 17-3 indicates that the sexuality courses did not have a significant impact upon social or sexual decisionmaking skills, communication skills, assertiveness skills, or birth control assertiveness skills. There were significant increases in some of these, but these increases were not significantly greater than the increases in the control groups.

Impact upon Comfort with Different Social and Sexual Activities

Table 17-4 indicates that the sexuality courses had a slight negative impact upon comfort with different social activities and had no impact upon comfort with any other activities. On comfort engaging in social activities, the experimental group had a slight decrease, while the control group had a slight increase.

Impact upon Frequency of Communication

Table 17-5 suggests that the sexuality courses did not have any impact upon the frequency of conversations about either sex or birth control with parents, friends, or boyfriends or girlfriends. The sexuality students had increases in some areas, but the control groups increased in the same areas.

Impact upon Sexual Behavior

Table 17-6 indicates that the sexuality courses did not have any impact upon whether students had ever had sex, had sex the previous month, or the number of times they had sex last month, had sex without birth control, had sex with poor methods of birth control, or had sex with effective forms of birth control. On all measures, the changes in one group were not statistically different from those in the other group.

Results of Other Analyses

In addition to the analysis summarized above, we also analyzed the data from the longer sites in a variety of different ways. For example, we analyzed separately the semester courses and the year long courses, and we analyzed the data without weighting the sites. For the most part, these analyses produced similar conclusions; the programs increased knowledge, but had little impact upon attitudes and behavior. Some of the analyses did not produce the same results for attitudes that were summarized above. Specifically, some of them did not show any impact upon clarity of long term goals, understanding of personal sexual response, attitude toward the use of pressure and force, or comfort engaging in social activities. Most of them did produce the same impact upon attitude toward the morality of permarital sex, indicating that it was not an artifact of the type of analysis.

Effects of the Shorter Programs

Impact upon Knowledge

The data in Table 17-7 indicate that the programs did significantly increase knowledge. The percentage of correct answers increased from about 61 percent to 75 percent and then to 77 percent. These increases were statistically significant and were also significantly greater than those increases in the control group.

Impact upon Self Understanding

The data in Table 17-7 also indicate that the participants' values became more clear. The mean score increased from 3.4 on the pretest to 3.6 on the posttest and then 3.7 on the second posttest. Again these were significant increases and the increases were significantly greater than those in the control group.

Impact upon Attitudes

On attitudes toward the importance of birth control and toward premarital intercourse, there were either no changes or the changes were not significantly greater than those of the control group.

Impact upon Skills

According to the data, participation in the programs did increase sexual decisionmaking skills. The increase from 3.0 to 3.2 was statistically significant and also significantly greater than that in the control group.

On the other hand, the data indicate that the programs did not have any impact upon assertiveness skills or birth control communication skills.

Impact upon Comfort

According to Table 17-8, the programs had a very small, but statistically significant increase in comfort talking about sex. The mean score increased from 2.8 to 2.9 on a 1-4 scale. This increase is obviously very small, and is significant only because the sample sizes are very large.

The data indicate that the program did not have a significant increase in comfort talking about birth control, talking with parents, having their current sex life, or getting and using birth control. There were increases between the pretests and posttests, but these increases were not significantly greater than those in the control group.

Impact upon Frequency of Communication

Table 17-9 indicates that shorter programs did not have any significant impact upon frequency of communication with parents, friends, or boyfriend or girlfriend. There were a few increases, but these were not significantly greater than those in the control group.

It should be remembered, however, that one of the short programs, namely the Family Guidance Center parent/child program did have a significant increase upon communication. Apparently these increases were obscured by the data from the other sites.

Impact upon Sexual Behavior

Table 17-10 indicates that the shorter programs did not have any impact upon whether or not participants had ever had sex, whether they had sex during the previous month, the number of times they had sex the previous month, the number of times they had sex without any kind of birth control, the number of times they had sex with poor methods of birth control, or the number of times they had sex with effective methods of birth control. That is, the data suggest that the programs did not have any impact upon any of the measures of sexual behavior. For some measures, there were changes in either the experimental or control groups, but for none of the measures was the change in either group significantly greater than that in the other group.

Summary of Results

The questionnaire data from the longer more comprehensive programs support several conclusions:

- Longer, more comprehensive programs increased knowledge about sexuality, specifically adolescent social and sexual activity, birth control, and sexually transmitted diseases. It had little impact in other areas of knowledge about sexuality.
- Longer programs had little impact upon understanding of self. They may have deterred clarity of long term goals and understanding of personal sexual response, but the former was probably due to the unusually large increase in the control group, and the latter was only marginally significant. On other measures of understanding and in other analyses there were no significant effects.
- Longer programs apparently prevented participants from developing more permissive attitudes toward premarital sex, and may have made participants more opposed to the use of pressure and force in sexual behavior. The programs had little impact on other attitudes.
- Longer programs did not have a significant impact upon self esteem or satisfaction with social or sexual relationships.
- Longer programs did not have a significant impact upon skills.

- Longer programs had little impact upon comfort with most social and sexual activities. They may have diminished comfort engaging in social activities, but this impact was very small and did not appear in other analyses.
- Longer programs did not have a significant impact upon behavior -- either frequency of communication about sexuality, participation in sexual intercourse, or use of birth control methods.

The data from the shorter programs also support several conclusions:

- Shorter programs increased knowledge.
- Shorter programs increased the clarity of personal sexual values, but did not have a significant impact upon attitudes toward premarital sex or birth control.
- Shorter programs increased sexual decisionmaking skills, but did not affect assertiveness skills or birth control communication skills.
- Shorter programs may have increased comfort talking about sex, but the change was very small. They did not significantly affect comfort talking about birth control, comfort talking with parents, comfort with current sex life, or comfort getting and using birth control.
- Shorter programs did not have a significant impact upon the frequency of conversations about either sex or birth control with either parents, friends, or boyfriends or girlfriends.
- Shorter programs did not have a significant impact upon having sex or using birth control.

It is tempting to compare the results of the longer more comprehensive school programs with the shorter non-school programs. Such a comparison indicates that both types of programs increased knowledge and neither significantly affected behavior. However, the shorter programs led to a greater increase in clarity of values than the longer, more comprehensive programs, while the longer programs made the participants more conservative about the morality of premarital sex. The former finding is just the opposite of expectations -- sexuality educators have always believed that more comprehensive programs with more discussions, more role playing, and more class participation in general would increase the clarity of sexual values much more than would shorter programs which are more didactic.

However, these comparisons should be viewed cautiously, because the two groups of programs completed questionnaires at different times, had different control groups, and were undoubtedly different in other ways that might have produced this unexpected result.

When viewing any of these summary results, you should remember that some individual programs had effects that became obscured when they were combined with other programs.

Table 17-1

Effects of Longer More Comprehensive Courses upon Knowledge:
Mean Percent Correct on Pretests and Posttests;
and Significance Levels for Differences between Pretests and Posttests
and between Experimental and Control Group Changes

			Means[a]		Significance[b]	
Outcome	Group[c]	N	Pre	Post	Pre vs Post	Change in E-Group vs[d] Change in C-Group
Total Knowledge	E	628	68.8	79.7	.000	.009
	C	44	77.5	84.7	.000	
Physical Development and Reproduction	E	628	84.6	88.8	.000	NS
	C	44	91.7	92.0	NS	
Adolescent Relationships	E	628	84.3	89.6	.000	NS
	C	44	90.2	94.7	NS	
Adolescent Social and Sexual Activity	E	628	67.8	79.8	.000	.024
	C	44	80.7	83.0	NS	
Adolescent Pregnancy	E	628	57.5	66.4	.000	NS
	C	44	64.2	80.1	.000	
Adolescent Marriage	E	628	55.3	68.7	.000	NS
	C	44	68.2	80.7	.026	
Probability of Becoming Pregnant	E	628	46.4	66.1	.000	NS
	C	44	43.9	56.8	.015	
Birth Control	E	628	71.0	84.9	.000	.002
	C	44	84.4	90.9	.003	
Sexually Transmitted Diseases	E	628	66.8	79.3	.000	.024
	C	44	75.5	85.0	.002	

Footnotes to Table 17-1

[a] The mean scores of the knowledge test are the mean percents of correct answers.

Both the experimental and control groups completed the pretest at the beginning of the fall semester program and the posttest at the end of the spring semester. For some of the respondents, the posttest is actually their second posttest.

[b] NA means not appropriate because there was no control group for the pretest and first posttest data. NS means not significant at the .05 level. All tests of significance are matched-pairs two-tailed t-tests. Smaller numbers represent smaller probabilities of results having occured by chance. Thus, .000 is the probability rounded to three digits and represents the highest level of significance. If the probability of results having occurred by chance was greater than .050, then the data were considered not significant and were not included in the table.

[c] E is the combined experimental group. C is the combined control group.

[d] This column is the significance of the difference between the change in the experimental group and the change in the control group. The change in each group is the posttest minus the pretest.

Table 17-2

Effects of Longer More Comprehensive Courses upon Self Understanding, Attitudes, Self Esteem, and Satisfaction with Sexuality and Social Relationships:
Mean Scores on Pretests and Posttests;
and Significance Levels for Differences between Pretests and Posttests
and between Experimental and Control Group Changes

Outcome	Group[c]	N	Means[a]		Significance[b]	
			Pre	Post	Pre vs Post	Change in E-Group vs[d] Change in C-Group
Clarity of Long Term Goals	E	628	3.5	3.6	NS	.007
	C	66	3.5	3.9	.001	
Clarity of Personal Sexual Values	E	628	3.6	3.7	.000	NS
	C	66	3.7	3.8	NS	
Understanding of Emotional Needs	E	626	3.6	3.7	.002	NS
	C	64	3.6	3.8	NS	
Understanding of Personal Social Behavior	E	627	3.5	3.5	.003	NS
	C	65	3.4	3.6	NS	
Understanding of Personal Sexual Response	E	618	3.5	3.6	.000	.049
	C	63	3.4	3.7	.000	
Attitude toward Gender Role Behaviors	E	609	3.7	3.8	.000	NS
	C	65	3.9	3.9	NS	
Attitude toward Sexuality in Life	E	629	3.7	3.8	.000	NS
	C	65	3.6	3.8	.025	
Attitude toward the Importance of Birth Control	E	626	4.4	4.6	.000	NS
	C	63	4.4	4.6	.012	
Attitude toward Premarital Intercourse	E	624	2.4	2.4	NS	.013
	C	67	2.7	2.4	.007	

Table 17-2 (Continued)

			Means[a]		Significance[b]	
Outcome	Group[c]	N	Pre	Post	Pre vs Post	Change in E-Group vs[d] Change in C-Group
Attitude toward Use of Pressure and Force in Sex	E	616	4.4	4.6	.000	.014
	C	68	4.6	4.6	NS	
Recognition of the Importance of the Family	E	628	4.4	4.4	NS	NS
	C	64	4.6	4.7	NS	
Self-esteem	E	616	3.5	3.6	.002	NS
	C	66	3.6	3.8	NS	
Satisfaction with Personal Sexuality	E	630	3.5	3.6	.000	NS
	C	64	3.5	3.8	.018	
Satisfaction with Social Relationships	E	616	3.5	3.6	.000	NS
	C	66	3.7	3.9	.022	

[a] All mean scores are based upon five 1-5 Likert type scales. They were scored so that the possible range is 1 to 5 with increases representing improvement. See the second paragraph of footnote a in Table 17-1.

[b] See footnote b in Table 17-1.
[c] See footnote c in Table 17-1.
[d] See footnote d in Table 17-1.

Table 17-3

Effects of Longer More Comprehensive Courses upon Skills:
Mean Score on Pretests and Posttests;
and Significance Levels for Differences between Pretests and Posttests
and between Experimental and Control Group Changes

			Means[a]		Significance[b]	
Outcome	Group[c]	N	Pre	Post	Pre vs Post	Change in E-Group vs[d] Change in C-Group
Social Decisionmaking Skills	E	632	3.7	3.9	.000	NS
	C	74	3.7	3.8	NS	
Sexual Decisionmaking Skills	E	513	3.5	3.7	.001	NS
	C	45	3.7	3.7	NS	
Communication Skills	E	610	3.7	3.8	.016	NS
	C	69	3.7	3.9	.018	
Assertiveness Skills	E	387	3.6	3.7	.028	NS
	C	46	3.9	4.0	NS	
Birth Control Assertiveness Skills	E				NS	NS
	C				NS	

[a] Mean scores are based upon multi-item indices which are scored so that the final scale has a possible range of 1 to 5 and increases represent improvements. See the second paragraph of footnote a in Table 17-1.

[b] See footnote b in Table 17-1.
[c] See footnote c in Table 17-1.
[d] See footnote d in Table 17-1.

Table 17-4

Effects of Longer More Comprehensive Courses upon Comfort with Different Activities:

Mean Scores on Pretests and Posttests;
and Significance Levels for Differences between Pretests and Posttests
and between Experimental and Control Group Changes

			Means[a]		Significance[b]	
Outcome	Group[c]	N	Pre	Post	Pre vs Post	Change in E-Group vs[d] Change in C-Group
Comfort Engaging in Social Activities	E	605	3.5	3.4	.001	.015
	C	66	3.3	3.4	NS	
Comfort Talking about Sex	E	497	2.7	2.9	.000	NS
	C	50	2.6	2.9	.001	
Comfort Talking about Birth Control	E	407	2.6	2.8	.000	NS
	C	39	2.7	2.9	NS	
Comfort Talking with Parents about Sexuality	E	489	2.1	2.2	.000	NS
	C	58	2.0	2.3	.011	
Comfort Expressing Concern and Caring	E				NS	NS
	C				NS	
Comfort Being Sexually Assertive (Saying "No")	E	475	2.7	2.9	.000	NS
	C	47	2.7	3.0	.011	
Comfort Having Current Sex Life	E				NS	NS
	C				NS	
Comfort Getting and Using Birth Control	E	117	2.9	3.0	.026	NS
	C	13	3.0	3.0	NS	

Footnotes to Table 17-4

[a] The means are based upon the following key:

Key: 1=very uncomfortable
2=somewhat uncomfortable
3=a little uncomfortable
4=comfortable

This key is the reverse of the key in the questionnaire. The scale was reversed so that larger numbers would represent improvement and be more similar to other scales in the evaluation. See the second paragraph of footnote a in Table 17-1.

[b] See footnote b in Table 17-1.
[c] See footnote c in Table 17-1.
[d] See footnote d in Table 17-1.

Table 17-5

Effects of Longer More Comprehensive Courses upon Frequency of Conversations about Sexuality:

Mean Scores on Pretests and Posttests;
and Significance Levels for Differences between Pretests and Posttests
and between Experimental and Control Group Changes

			Means[a]		Significance[b]	
Outcome	Group[c]	N	Pre	Post	Pre vs Post	Change in E-Group vs[d] Change in C-Group
Q49. Frequency of conversations about sex with parents	E				NS	NS
	C				NS	
Q50: Frequency of conversations about sex with friends	E				NS	NS
	C				NS	
Q51: Frequency of conversations about sex with boy/girlfriend	E	534	2.2	3.2	.000	NS
	C	72	2.0	3.8	.014	
Q52: Frequency of conversations about birth control with parents	E				NS	NS
	C				NS	
Q53: Frequency of conversations about birth control with friends	E	542	1.6	2.8	.000	NS
	C	72	1.4	2.5	NS	
Q54: Frequency of conversations about birth control with boy/girlfriend	E	522	1.1	1.8	.001	NS
	C	72	1.2	2.1	NS	

[a] All mean scores are the means of the frequencies for the last month. See the second paragraph of footnote a in Table 17-1.

[b] See footnote b in Table 17-1.

[c] See footnote c in Table 17-1.

[d] See footnote d in Table 17-1.

Table 17-6

Effects of Longer More Comprehensive Courses upon Sexual Intercourse and Use of Birth Control:

Mean Scores on Pretests and Posttests;
and Significance Levels for Differences between Pretests and Posttests
and between Experimental and Control Group Changes

			Means[a]		Significance[b]	
Outcome	Group[c]	N	Pre	Post	Pre vs Post	Change in E-Group vs[d] Change in C-Group
Q43: Ever had sex	E	571	.30	.40	.000	NS
	C	78	.31	.41	.004	
Q44: Had sex last month	E	565	.19	.24	.003	NS
	C	76	.14	.24	NS	
Q45: Frequency of sex last month	E	567	0.8	1.5	.000	NS
	C	76	0.6	1.4	.049	
Q46: Frequency of sex without birth control	E	568	0.3	0.5	.009	NS
	C	77	0.2	0.3	NS	
Q47: Frequency of sex with poor birth control	E	563	0.3	0.4	NS	NS
	C	78	0.1	0.8	.050	
Q48: Frequency of sex with effective birth control	E	565	0.4	0.7	.002	NS
	C	76	0.4	0.5	NS	

[a] For the first two questions, mean scores represent the proportions that have had intercourse. For the remaining questions, mean scores are the means of the actual frequencies. See the second paragraph of footnote a in Table 17-1.

[b] See footnote b in Table 17-1.

[c] See footnote c in Table 17-1.

[d] See footnote d in Table 17-1.

Table 17-7

Effects of Shorter Programs upon Knowledge, Attitudes, and Skills: Mean Percent Correct on Pretests, Posttests, and 2nd Posttests; and Significance Levels for Differences between Pretests and Posttests and between Experimental and Control Group Changes

			Means[a]			Significance[b]	
Outcome	Group[c]	N	Pre	1st Post	2nd Post	Pre vs 1st or 2nd Post	Change in E-Group[d] vs Change in C-Group
Knowledge	E	1241	61.1	75.2		.000	NA
	E	769	62.3		77.4	.000	.000
	C	274	48.5		51.2	.011	
Clarity of Personal Sexual Values	E	1144	3.4	3.6		.000	NA
	E	709	3.4		3.7	.000	.000
	C	228	3.6		3.7	NS	
Attitude toward the Importance of Birth Control	E	1205	4.3	4.4		.000	NA
	E	748	4.3		4.4	NS	NS
	C	228	4.3		4.4	NS	
Attitude toward Premarital Intercourse	E	1186	2.7	2.7		NS	NA
	E	732	2.8		2.7	.004	NS
	C	229	2.7		2.7	NS	
Sexual Decisionmaking Skills	E	Not included in the 1st posttest questionnaire.					
	E	423	3.0		3.2	.001	.046
	C	155	3.4		3.4	NS	
Assertiveness Skills	E	Not included in the 1st posttest questionnaire.					
	E					NS	NS
	C					NS	
Birth Control Communication Skills	E	Not included in the 1st posttest questionnaire.					
	E					NS	NS
	C					NS	

Footnotes to Table 17-7

[a] The mean scores of the knowledge test are the mean percents of correct answers. The means of the clarity of values and the attitudes are based upon five 1-5 Likert type scales. The mean scores of the skills are based upon multi-item indices. Both the attitudes and the skills are scored so that the final scales have a possible range of 1 to 5 and increases represent improvements.

The experimental group completed the pretest at the beginning of the program, first posttests at the end of the program, and second posttests about three to four months later. Because the elapsed time between the pretest and first posttest was so short, there was no control group for the pretest and first posttest. For the pretest and second posttest data there was a control group. The elapsed time between the experimental pretest and second posttest and the control pretest and posttest are about the same. Because some experimental students did not complete the 2nd posttest, the sample size for the 2nd posttest is smaller, and the data are presented on a separate line.

[b] NA means not appropriate because there was no control group for the pretest and first posttest data. NS means not significant at the .05 level. All tests of significance are matched-pairs two-tailed t-tests. Smaller numbers represent smaller probabilities of results having occured by chance. Thus, .000 is the probability rounded to three digits and represents the highest level of significance. If the probability of results having occurred by chance was greater than .050, then the data were considered not significant and were not included in the table.

[c] E is the combined experimental group. C is the combined control group.

[d] This column is the significance of the difference between the change in the experimental group and the change in the control group. The change in each group is either the first posttest minus the pretest or the second posttest minus the pretest.

Table 17-8

Effects of Shorter Programs upon Comfort with Different Activities:
Mean Scores on Pretests, Posttests, and 2nd Posttests;
and Significance Levels for Differences between Pretests and Posttests
and between Experimental and Control Group Changes

			Means[a]			Significance[b]	
Outcome	Group[c]	N	Pre	1st Post	2nd Post	Pre vs 1st or 2nd Post	Change in E-Group[d] vs Change in C-Group
Comfort	E	818	2.8	2.8		.023	NA
Talking	E	481	2.8		2.9	.000	.036
about sex	C	192	2.6		2.6	NS	
Comfort	E	667	2.8	2.8		NS	NA
Talking about	E	390	2.8		2.9	.000	NS
Birth Control	C	135	2.6		2.7	NS	
Comfort	E	893	2.2	2.3		.050	NA
Talking with	E	526	2.2	2.4		.000	NS
Parents about Sexuality	C	192	2.2		2.3	NS	
Comfort	E	876	3.4	3.4		NS	NA
Having	E	536	3.5		3.6	.017	NS
Current Sex Life	C	211	3.4		3.4	NS	
Comfort	E	265	2.7	2.8		NS	NA
Getting and	E	116	2.8		2.9	.025	NS
Using Birth Control	C	49	2.7		2.7	NS	

[a] The means are based upon the following key:

Key: 1=very uncomfortable
2=somewhat uncomfortable
3=a little uncomfortable
4=comfortable

This key is the reverse of the key in the questionnaire. The scale was reversed so that larger numbers would represent improvement and be more similar to other scales in the evaluation. See the second paragraph of footnote a in Table 17-7.

[b] See footnote b in Table 17-7.
[c] See footnote c in Table 17-7.
[d] See footnote d in Table 17-7.

Table 17-9

Effects of Shorter Programs upon Frequency of Conversations about Sexuality: Mean Scores on Pretests and 2nd Posttests; and Significance Levels for Differences between Pretests and Second Posttests and between Experimental and Control Group Changes

			Means[a]		Significance[b]	
Outcome	Group[c]	N	Pre	2nd Post	Pre vs 2nd Post	Change in E-Group vs[d] Change in C-Group
Frequency of conversations about sex with parents	E				NS	NS
	C				NS	
Frequency of conversations about sex with friends	E				NS	NS
	C				NS	
Frequency of conversations about sex with boy/girlfriend	E	660	1.5	2.0	.002	NS
	C	239	1.7	2.0	NS	
Frequency of conversations about birth control with parents	E				NS	NS
	C				NS	
Frequency of conversations about birth control with friends	E	672	1.4	1.8	.006	NS
	C	241	1.1	1.7	.004	
Frequency of conversations about birth control with boy/girlfriend	E	665	0.9	1.5	.000	NS
	C	238	1.1	1.4	NS	

[a] All mean scores are the means of the frequencies for the last month. See the second paragraph of footnote a in Table 17-7.

[b] See footnote b in Table 17-7.

[c] See footnote c in Table 17-7.

[d] See footnote d in Table 17-7.

Table 17-10

Effects of Shorter Prgrams upon Sexual Intercourse and Use of Birth Control:
Mean Scores on Pretests and 2nd Posttests;
and Significance Levels for Differences between Pretests and Second Posttests
and between Experimental and Control Group Changes

			Means[a]		Significance[b]	
Outcome	Group[c]	N	Pre	2nd Post	Pre vs 2nd Post	Change in E-Group vs[d] Change in C-Group
Ever had sex	E	674	.38	.41	.002	NS
	C	253	.33	.35	NS	
Had sex last month	E	670	.19	.24	.002	NS
	C	254	.21	.22	NS	
Frequency of sex last month	E	676	0.9	1.4	.000	NS
	C	252	0.8	1.1	NS	
Frequency of sex without birth control	E				NS	NS
	C				NS	
Frequency of sex with poor birth control	E	676	0.2	0.3	.048	NS
	C	258	0.2	0.4	.049	
Frequency of sex with effective birth control	E	676	0.6	0.9	.002	NS
	C	253	0.4	0.6	.048	

[a] For the first two questions, mean scores represent the proportions that have had intercourse. For the remaining questions, mean scores are the means of the actual frequencies. See the second paragraph of footnote a in Table 17-7.

[b] See footnote b in Table 17-7.

[c] See footnote c in Table 17-7.

[d] See footnote d in Table 17-7.

CHAPTER 18

SUMMARY AND DISCUSSION OF ALL RESULTS

The review of the literature in Chapter 3 commented that the goals of sexuality education are extremely demanding and are far more difficult to achieve than the goals of most other school classes, and that in many respects evaluating sexuality education programs on the basis of these goals is unfair. As noted in that chapter, most other classes are not evaluated by measuring their impact upon attitudes, skills, and behavior outside of the classroom -- civics classes are not evaluated by measuring students' later voting behavior or performance of other civic duties; English classes are not evaluated by measuring students' improvement in their speech and thinking outside of class; and health classes are not evaluated by measuring students' improvements in their eating, dental, exercise, or smoking habits, nor by measuring their impact upon student illness. In contrast, sexuality education classes are evaluated by measuring their impact upon attitudes, social and sexual behaviors outside of class, and student pregnancies. This seems to be an unfair double standard. Thus, when sexuality education units or courses fail to meet some of these behavioral goals within seveal months of the course, they should not be singled out, unduly criticized, and removed from the curriculum, because most other courses would also fail to affect behavior outside the classroom within that time span.

Nevertheless, we have evaluated the impact of sexuality education upon these behavioral goals for three reasons: our society needs solutions to unintended teenage pregnancy and other sexual problems; these behavioral goals have been proffered for sexuality education; and they are frequently used to justify the development and implementation of programs.

Summary of Student Evaluations

The vast majority of the student evaluations of the comprehensive courses were very positive. On the 1-5 Likert type scales ranging from "Very Poor" to "Excellent", teachers and courses typically received overall ratings of 4.8 or higher. These are remarkably high median scores.

Moreover, when participants used different 1-5 Likert type scales ranging from "Not at all" to "A great deal" to rate the extent to which teachers and courses had various important qualities, they provided median ratings of 4.0 or greater on nearly all positive qualities and median scores of 2.5 or less on nearly all negative qualities. That is, all programs had nearly all positive qualities to a large extent or more, and nearly all negative qualities to a small extent or less.

More specifically, the students thought the teachers were enthusiastic about teaching the course, cared about them and respected them, and consequently got along well with them. The students thought the teachers talked at a level the students could understand, encouraged the students to talk about their feelings and opinions, and listened to the students. They thought the teachers were comfortable discussing sexuality. Students felt they were allowed to have views that differed from others in the class and that their views in class were kept confidential. Consequently, students claimed that they asked questions and participated in class discussions a rather large amount and had only a small amount of discomfort. Because the topic was sexuality, the fact that the students had only a little discomfort asking questions and expressing thoughts was a real achievement. Finally, the students thought that the teachers emphasized the basic values of the course: the teachers strongly discouraged them from hurting others in sexual relationships and strongly encouraged them to think about their their own values about sexuality, to think about the consequences of sexual relations before having sex, to use birth control to avoid unwanted pregnancy if sexually active, and to a lesser extent to talk with their parents about sexuality.

In sum, students rated their sexuality education teachers and courses very positively. Their ratings strongly indicate that these courses had all the qualities that professionals in the field previously identified as important. These ratings strongly suggest that these courses should be successful, and they do not suggest any faults that would reduce their effectiveness.

Clearly, these high ratings represent one reason to continue offering sexuality education.

Summary of Parent Evaluations

Parents of students in seven different courses also rated the courses. Using a 1-5 Likert type scale from "Very Poor" to "Excellent", they rated the teachers, the topics covered, the materials used, the format and organization of the course, and the overall course. Again all of the ratings were very high; median ratings ranged from 4.0 to 5.0. In the parent/child program, the parents observed first hand all the parts of the course and consequently could give more valid ratings. Their median ratings ranged from 4.6 to 4.9. Clearly the parents of the participants liked and supported the courses. This is another reason to continue supporting sexuality education.

Discussion and Summary of the Pretest/posttest Results

In general, the pretest, posttest, and second posttest data indicate that between the beginning of the programs and five months after the programs, most programs increased knowledge, but did not have a significant impact upon most other outcomes. There were only three possible reasons for this latter finding: there was not a significant difference between the participants' pretest and posttest data; a significant increase disappeared by the time of the second posttest; or an increase among the participants was not significantly greater than a similar increase among the control group members.

There were of course major exceptions. For example, the parent/child programs increased parent/child communication, and the clinic program increased the use of birth control and reduced pregnancies and births. Some other programs also had other effects. Thus, the previous chapters discussed each program individually, and this chapter discusses each outcome separately.

Impact upon Knowledge

Most programs significantly increased students' knowledge. That is, there were increases between the pretests and posttests (and delayed posttests when administered), and these increases were significantly greater among the sexuality classes than among the control groups. On the average, sexuality students increased their test scores by about 10 percentage points more than the control groups. However, the greater gains of the sexuality students varied greatly from program to program. In some programs they only gained 3 percentage points more than their respective control groups, in others up to 17 percentage points more, and in one program 41 percentage points more.

There were much greater gains in knowledge among classes with younger students than among classes with older students. Probably this was due to the fact that younger students simply knew much less and had much more to learn. Typically their pretest scores were much lower that the pretest scores for the older students. However, it is also true that the very youngest students took part in parent/child programs and the presence of parents may have facilitated learning. Also, some of the very youngest students completed different knowledge tests which may have made it easier for students to increase their test scores. Thus, these data provide evidence, but not compelling evidence for the proposition that the younger students learned more than the older students.

Surprisingly, the longer more comprehensive courses did not appear to have more impact upon knowledge than the much shorter courses. There are several possible explanations for this. First, some of the more comprehensive courses focused less upon increasing knowledge and more upon clarifying values or other goals. Second, the duration of time between the pretests and the posttests was much greater for the longer courses than for the shorter courses, and the students in the longer courses may have had more opportunity to forget material and their respective control groups may have had more opportunity to increase their knowledge. Third, the longer more comprehensive courses completed longer questionnaires covering more topics than the shorter courses and improvement may have been more difficult to demonstrate with these questionnaires than with the shorter questionnaires. Finally, some of the longer courses were taught to older students who had smaller increases in knowledge regardless of the length of the course.

In the longer more comprehensive programs where longer knowledge tests were administered, each knowledge test was composed of several separate tests measuring knowledge in eight different areas. In these programs, there were significant increases in some areas, but not in all. The topics having significant gains in the most programs were the probability of becoming pregnant, birth control, and sexually transmitted diseases.

In the majority of courses, both long and short, knowledge scores did not decline between the posttest and the second posttest; rather they increased. This suggests that students do not forget the information quickly, but continue to learn after the course is completed. This is a goal of some of the courses. For example, they try to provide a basis for learning in the classroom and provide written materials to be read later at home.

A few programs had some statistically significant increases at the first posttest, but not at the second posttest. In most cases this was not because students forgot the material, but because the control groups also learned a considerable amount of material and caught up somewhat.

There are several possible reasons why courses did not produce even greater increases in knowledge than those observed. First, in some courses students did not take written notes during class, did not have homework, and didn't study for tests. Certainly, few of the students studied for these questionnaires. Thus, students may not have reinforced the factual material that they had learned.

Second, sexuality classes are very different from other courses in school in an important respect. Teenagers continually participate in a large pool of information about sexuality, a pool containing both correct and incorrect information. Thus, teenagers may learn correct information in class, but that correct information may be diluted by incorrect information learned later outside of the classroom. This is in contrast to other topics in school which students rarely discuss outside of class. If a student has correctly learned factoring in algebra class, that student is not likely to discuss and learn an incorrect method of factoring outside of class.

Third, the pretest/posttest evaluation may have understated the amount students actually learned. Nearly all teachers reviewed the tests before their administration and indicated that they covered the questions included. Nevertheless, the test was a standardized knowledge test and did not necessarily ask questions about those facts emphasized by the teachers in the classroom.

This raises the more general question, which kind of knowledge test is the more valid, a knowledge test which was written by the teacher and covers the facts that the teacher emphasized, or a knowledge test which was developed independently and covers a sample of questions determined to be important by other sexuality educators? A teacher developed test may better measure whether the students learned anything at all, because such a test probably focuses upon those facts the students are most likely to have learned. On the other hand, it may overestimate the amount the students appeared to have learned about sexuality in general. In contrast, an independently developed test will not measure as well whether the students learned anything, because it may not ask the particular questions the teacher emphasized and the students learned, but it can more validly measure how much students learned about sexuality in general.

This explanation for some of the small increases in knowledge is supported by the fact that on the few knowledge tests designed by the teachers, the students demonstrated substantially greater improvement in knowledge.

Impact upon Self Understanding

Clarity of Values. We measured clarity of values at all but one of the sites and the data indicate that with one exception, most sites did not have much impact upon clarity of values during the evaluation period. However, the three programs sponsored by the Family Guidance Center which measured clarity of personal sexual values had a substantial and statistically significant impact. The participants in their five day school courses, their school conferences, and their parent/child programs for older children all had significantly greater gains than their control groups. (We did not measure clarity of values in the parent/child program for younger adolescents.) These gains ranged from .3 to .6 on 1-5 Likert indices.

Moreover, in four other programs, the University City course, the George Mason 9th grade course, the Council Rock 12 grade course, and the San Antonio six day course, there were increases in clarity of values that were almost as large as those at the Family Guidance Center. Typically they ranged from .2 to .4. However, these increases were sometimes paralleled by increases in their control groups, and consequently the increases in the experimental groups were not significantly greater than the increases in the control groups in all of these programs. Whether or not the increases in these four programs were statistically significantly greater than the control group was determined more by the control groups than by the magnitudes of the changes in the sexuality classes.

It is not possible to determine whether the apparent greater success of the Family Guidance Center was caused by their control groups having less gain, by their working with younger adolescents, or by the quality of their teachers and curricula. Most likely their apparent greater success is a result of more than one of these factors and perhaps others.

Other measures of self understanding. In the longer programs we also measured clarity of long term goals, clarity of personal sexual values, understanding of emotional needs, understanding of personal social behavior, and understanding of personal response to sexual situations. On most of these measures most programs do not appear to have had an impact during the program or within five months after the program. Once again, there were increases between the pretests and posttests, but often there were also increases in the control groups.

These results on self understanding are somewhat surprising because the more comprehensive programs often focused upon self understanding and had numerous activities designed to increase it. Moreover, many students have said either verbally or in writing that the course increased their self understanding.

There are several possible reasons why the data were not more positive. First, the clarity of people's values and their self understanding more generally may be affected much more by real life personal experiences than by talking or reading about the experiences of others. For example, an adolescent girl's clarity of feelings about pressure to have sex are far more likely to be affected by a personal experience in which a man strongly pressures her to have sex than by a classroom discussion of pressure. If this is true, and if both the sexuality students and the control students have similar experiences outside the classroom, then both groups would have similar increases in self understanding, as shown in the data.

Second, measuring the different dimensions of self understanding is certainly more difficult than measuring knowledge. Although the scales had adequate or better than adequate test-retest reliability coefficients and also had adequate or better than adequate inter-item reliability coefficents, they obviously did not measure self understanding perfectly, and measurement error may have obscured small improvements.

Third, as noted in several chapters, one of the control groups had an unusually large increase in clarity of long term goals that was probably due to their imminent graduation from high school.

Impact upon Attitudes

Attitude toward premarital sex. We measured attitude toward premarital sex in all sites. These data indicate that the sexuality programs did not make the students more liberal or more accepting of premarital sex. In site after site there was very little change in the students' attitudes toward premarital sex. If the programs had any impact, then the longer more comprehensive programs prevented the students from becoming more liberal. When all the more comprehensive programs were grouped together in the previous chapter, the sexuality students did not change their attitudes while the control students became more liberal. These results were statistically significant and suggest that the longer programs prevented that change. These results were probably not caused by inadequate control groups, because young people do become more accepting of premarital sex as they become older, and the control groups reflected this.

Attitude toward birth control. In all sites, we also measured attitude toward the importance of birth control. These data indicate that most programs had no impact upon attitude toward the importance of birth control either during the program or within five months of the program. In most cases there were improvements among the sexuality classes, but these were matched by similar increases in the control groups. In general, respondents in both the experimental and control groups felt that birth control was important and mean scores were typically above 4.3.

Although the mean scores are high, there is still considerable room for improvement, and, as noted, there were increases over time. Thus, these results were probably not caused by a ceiling effect, in which high scores on the pretests prevented any possible improvement.

These high scores suggest that the reason for the failure of sexually active adolescents to properly use birth control is not that they don't feel it is important. Rather, there must be other reasons. For example, many female adolescents incorrectly believe that "it won't happen to me", while others do not accept the fact that they are sexually active.

Once again real life experiences may have much greater impact upon attitude toward birth control than discussions in the classroom. If a student's friend becomes pregnant, or if a student, herself, thinks she may be pregnant, those events may have a much greater impact than classroom discussions.

Other attitudes. At the longer programs we also measured attitudes toward gender roles, sexuality in life, the use of pressure and force, and the importance of the family. Some of the longer courses produced a significantly greater opposition to the use of pressure and force in social and sexual relations. Among all the sexuality students combined, there was an increase of .2 on the 1-5 Likert index, while there was no increase among the control students.

Most of the comprehensive programs did not have any impact upon existing attitude toward gender roles, sexuality in life, or the importance of the family.

Impact upon Self Esteem and Satisfaction with Sexuality and Social Relationships

We measured self esteem, satisfaction with personal sexuality, and satisfaction with social relationships in all of the longer programs. None of them had a significant impact upon any of these three outcomes either during the programs or witin five months after the programs. All three outcomes seemed to be very stable, at least at the aggregate level. Mean scores changed only a little, and they changed about equally for the experimental and control groups.

A multitude of events affect self esteem and satisfaction with one's sexuality and social relationships -- doing well on an exam, meeting and asking out an attractive person of the opposite sex, winning a football game. Thus, it is not surprising that a single course in school doesn't have a significant impact upon these outcomes, even though the course discusses those outcomes.

Impact upon Skills

In the longer programs we measured social decisionmaking skills, communication skills, sexual decisionmaking skills, assertiveness skills, and birth control communication skills, while in the shorter programs we measured only the last three of these. Most programs did not have a measurable impact upon any of these skills. In only a few programs were there any changes between the pretests and posttests, and when there were changes, they were typically matched by the control groups.

There were a few exceptions -- in two sites there were increases of .2 on a 1-5 Likert type index, and one of these was statistically significant. Moreover, when all the short programs were combined, there was also an increase of .2 in sexual decisionmaking skills among the sexuality students and no increase among the control students. This difference was also statistically significant, although just barely.

In general, however, the data indicate the programs had little impact upon skills. There are at least two major reasons for this. First, the questionnaires did not measure skills in the classroom; rather they measured self reports of the extent to which the students outside the classroom actually engaged in various behaviors believed to be the basic components of good decisionmaking, communication, and assertiveness. That is, the questionnaire did not measure whether or not the students had the skills, but whether they used them (or said they used them) in their everyday life. Although using skills in everyday life is certainly more important than simply knowing them in the classroom, it is clearly more difficult for programs to affect the use of skills outside the classroom. This explanation was supported by a few students who claimed that they could use their new communication skills in the classroom, but not in their everyday world.

Second, measuring the use of decisionmaking and communication skills is extremely difficult. Other researchers have tried to develop valid measures, but none of them was very successful. The scales used in the questionnaires have adequate reliability, but they probably have the lowest validity of any parts of the questionnaire; respondents probably have difficulty both understanding some of the ideas in the questions and remembering how frequently they actually use various skill components.

Impact upon Comfort and Frequency of Communication about Sexuality

At all sites except the clinic site, we measured comfort talking about sex, comfort talking about birth control, comfort talking about sexuality with parents, the frequency of reported conversations about sex and the frequency of conversations about birth control, with parents, friends, and girlfriends or boyfriends. The data indicate that with one exception the programs did not have a significant impact upon either comfort or frequency of conversations with any of these groups. There were few increases between the pretests and posttests, and where these increases occurred, they were commonly not greater than the increases in the control groups. With one exception, the couple of scattered findings were probably artifactual and not caused by the programs.

There was, however, a major exception -- the Family Guidance Center parent/child program for younger children and the program for older children. At these programs we measured parents´ and children´s perceptions of the children´s comfort talking about both sex and birth control, parents´ perceptions of their own comfort talking about sex and birth control, and both children´s and parents´ perceptions of the frequency of conversations.

In the short run, the program for younger children substantially improved the children´s perceptions of their comfort talking with their parents about sex. In the long run, there was an improvement, but it was not significant. The parents´ perceptions of their children´s comfort improved substantially in the short and long run. Similarly, their own comfort increased significantly. There were also improvements in perceived comfort talking about birth control, but because of the small sample sizes, only one change was statistically significant.

According to both the children and their parents, the numbers of conversations about both sex and birth control increased significantly during the course. Naturally they would increase between the pretests and posttests, because the parents discussed sexuality with their children during the course. However, more critically, the number of their conversations remained significantly higher at the second posttests. The parents´ estimates differed from their children´s, but both showed increases. According to the parents, the mean number of conversations about sex increased from 1.9 per month before the course to 8.2 per month four months after the course. The mean number of conversations about birth control increased form 0.1 to 1.1.

The program for older children had fewer effects, but it still appears to have increased comfort and frequency. The older children's ratings of comfort talking about sex did not change between the pretests and posttests, but the ratings of the parents for themselves and for their children improved in the direction of more comfort. The program did not appear to increase comfort talking about birth control.

According to the older children, there were increases in the frequency of communication between the pretests and posttests, but by the second posttests the increases had diminished so that they were no longer statistically significant. However, according to the parents, the increases in communication remained significant for conversations about sex, but not about birth control. Thus, the program for the older children may have been effective, but not as effective as for the younger children.

In sum, most of the sexuality education programs did not have any impact upon comfort or frequency of communication, but the parent/child programs clearly increased the comfort of the parents, to a lesser extent increased the comfort of their children, and increased the frequency of communication. Moreover, the course for younger children was more successful than the course for older children.

The findings for the less effective courses were surprising because participants, particularly those in the more comprehensive courses, do talk about sexuality in the classroom in a serious, constructive, and comfortable manner. Thus, many students practice talking about sexuality in the classroom, and all students see daily that sexuality can be discussed without great embarrassment. One would have predicted this practice and modeling would have made it easier for the students to discuss sexuality seriously outside of the classroom.

However, a verbal exchange between students in one class may have revealed part of the problem. One student asked for suggestions about how to handle a particular problem. A second student suggested using the communication skills that they had learned in that class. The first student then replied that this classroom was special, and that the second student should have realized that you can't really use these communication skills in the real world.

Thus, courses did succeed in creating a social environment in the classroom conducive to discussing sexuality comfortably. Moreover, they succeeded even though many students had experienced years of discomfort with the topic of sexuality. However, the courses did not succeed in increasing comfort outside the classroom where the preestablished social environment apparently continued to produce discomfort. Apparently the students could not recreate enough of the classroom environment outside the classroom when they were talking with parents, peers, or others who had not participated in the course and who had remained uncomfortable talking about sexuality. Clearly, communication patterns were well established before the students took the courses and were difficult for the courses to change, despite many hours of practice in the classroom.

However, the parent/child programs demonstrate that if you bring together parents and their children and start them communicating there in the classroom in a constructive and comfortable manner, they will break down established barriers and will continue to communicate after the course is over. Notably, parents are an important part of the environment outside the school, and when they are also taught new skills, then a significant part of that outside environment is also changed, and sexuality can then be discussed more comfortably. Perhaps this finding can be generalized to couples other than parents and children -- perhaps if girlfriends and boyfriends came to special courses together and began to discuss sexuality and birth control in the course, they would continue to discuss their concerns after the course.

Impact upon Comfort with Other Social and Sexual Activities

At all programs except the clinic program and the parent/child program for younger children, we measured comfort with current sex life (including abstinence) and comfort getting and using birth control. At the longer programs we also measured comfort engaging in social activities, expressing concern and caring, and being sexually assertive (saying "No"). The data indicate that the programs did not have any impact upon any of these areas of comfort. In very few programs were the changes in the sexuality classes any different from those in the control groups. Where changes were significant, they were sometimes in the desired direction and sometimes in the other direction; most of them were small; some were barely significant; they formed no clear pattern; and they were probably random or artifactual and not caused by the programs. Certainly the vast majority of data indicate that the programs had no impact upon comfort with these activities. Apparently comfort in these areas is also difficult to change.

Impact upon Sexual Behavior

We administered questionnaires measuring sexual and contraceptive behavior at all the sites except for the clinic site and Ferndale High School. However, the number of participants who were sexually active at the parent/child programs was so small that those results are not meaningful.

Sexual activity. The data for the remaining sites indicate that these programs neither increased nor decreased reported sexual activity up to five months after programs ended. For the most part, the programs had no impact upon whether or not participants had ever had sex or had sex the previous month nor upon the number of times they had sex the previous month. Most of the individual programs did not have any significant effects, and when programs were grouped into longer and shorter programs, they also did not have any significant effects.

There were a few minor exceptions -- one course had a slight decrease in the percentage of students who had sex the previous month; another had a greater increase than the control group, but only because the control group had a strange drop in activity; and one other course had a slight increase. Although these exceptions were statistically significant, two of them were just barely significant and did not form any pattern; they were undoubtedly artifactual and not caused by the program. As noted above, when all the courses were grouped together, there were no significant effects.

Contraceptive behavior. The questionnaire data indicate that up to three to five months after participation in programs, the non-clinic programs did not have any measurable impact upon the reported frequency of sex without birth control, the frequency of sex with less effective methods of birth control, or the frequency of sex with more effective methods of birth control. In most of the sites there were no significant differences. Moreover, when the data from the longer and shorter courses were merged into two groups, again there were no significant differences. Thus, these questionnaire data strongly indicate that the programs did not have much impact on pregnancy related behavior.

There were a several minor exceptions. The George Mason senior seminar had a decrease in the frequency of sex without birth control and the frequency of sex with poor methods of birth control. However, these decreases were just barely significant. Two other sites had a slight increase and a slight decrease respectively in the frequency of sex with effective birth control; these were also marginally significant.

These data indicate that it is extremely difficult for educational programs to affect actual behavior. Researchers have documented a large number of factors that are related to decisions about sexual activty and contraceptive use. Apparently, those factors and others had a far greater impact than participation in relatively short sexuality education programs. After all, even the longest program is miniscule in comparison with all the sexuality education that each person receives from peers, parents, the media, and elsewhere.

There is also the possibility that the behavioral questions were not valid. For example, some people may have wanted to exaggerate their sexual activity, while others may not have wanted to admit to sexual activity or may have been concerned about exposure.

However, for several reasons, it appears likely that these questions were valid. First, many steps were taken to assure anonymity and many teachers commented that the students were comfortable completing them. Second, we wrote and used several computer programs to check every questionnaire and to exclude those with questionable data. Only a small percentage were discarded. Third, the test-retest reliability was very high for these questions. Fourth, we checked the consistency of many questions regarding sexual behavior and the vast majority were consistent. Those that were not were excluded. Fifth, the questions have a high face validity -- they are clearly and directly asking what we wish to measure. Sixth, most types of error would have occurred equally in the experimental and control groups and consequently would have had little impact upon these conclusions. Finally, these results are consistent with the pregnancy data which were collected independently.

It should be fully realized that these results apply only to the programs that were primarily educational approaches and were evaluated by the questionnaires. The clinic program collected records indicating that it increased the use of birth control.

Summary of the Results of the Pregnancy Data

We collected pregnancy data from three of the non-clinic programs and the clinic program. They were consistent with the pretest/posttest questionnaire data -- they indicated that the non-clinic programs did not have a significant impact upon pregnancies, and that the clinic program did have a significant impact. At none of the non-clinic sites were the data statistically significant.

At none of the three non-clinic sites did the data prove that the programs had no impact at all upon pregnancies. That is, any of the three programs could have had a small impact without that impact appearing statistically significant in the data. However, the impact upon pregnancies was measured in three somewhat different ways at the three sites and at none of the sites was there any indication that increasing the sample size somewhat or improving the methods in some other way would have made an impact significant.

The analysis of the clinic program demonstrated quite the reverse -- the number of births (and apparently pregnancies) dropped dramatically after the clinics were implemented.

Summary of the Student and Parent Assessments of the Course Impact

In their assessments of the impact of the course upon themselves, participants in nearly all the programs indicated that the courses had a particularly large effect in four different ways -- the courses increased their knowledge about sexuality, made them feel that using birth control is more important, increased the chances that they would use birth control if they have sex, and increased their comfort with using birth control. On all four of these outcomes, the median scores for most sites were between 4.0 and 4.7 on a 1-5 Likert type scale measuring change. That scale allowed for change in both negative and positive directions (e.g., the participants could indicate that they were either less likely or more likely to use birth control). To a lesser extent, students in most sites also thought the courses increased their understanding of themselves and their behavior, made their values about sexuality more clear, helped them talk about sexuality both more effectively and more comfortably, and improved their decisions about their social lives and their sexual lives.

In general, students who participated in longer, more comprehensive courses thought that these courses had a greater impact upon them than did the participants in shorter courses.

At nearly all the sites, the students also indicated very clearly that the course did not affect the probability that they would have sex. On a 1-5 scale ranging from much less to much more, the median score in affecting the probability of having intercourse was typically 3.0 ("about the same").

In six of the different programs we were able to ask the parents how they felt the course affected their teenagers. We asked them fewer and less detailed questions, but generally they support the students′ claims that the course had a positive impact upon them. Parents believed that the course increased their teenagers′ knowledge and also the chances that their teenagers would make good decisions about social and sexual behavior. To a lesser extent they believed that the course increased the clarity of their teenagers′ values. They also indicated that they had communicated more with their teenagers about sex and were more comfortable doing so, because of the course.

Relative Validity of the Different Methods

The three different methods obviously produced somewhat different conclusions. The pretest/posttest data and the pregnancy data provide one coherent picture; the student and parent course assessments another. Thus, it is important to assess the relative validity of the different methods.

Pretest/posttest Questionnaires

In general the best methods of measuring the impact of any program upon a specified set of outcomes are (1) to randomly assign people to experimental and control groups, to implement the program, and then to directly measure the outcomes in each group, and (2) to find maximally similar experimental and control groups, to directly measure potential outcomes before the program, to implement the program, and then to directly measure the same outcomes after the program. Because we used this second method to obtain the pretest/posttest data, it should be more valid than the student or parent assessments of the course impact.

There are, however, a variety of possible methodological problems that potentially could have reduced the validity of these pretest/posttest data. These are examined individually.

Control groups. We were never able to randomly assign people to the sexuality classes and to the control groups. Thus, some of the control groups for the sites consisted of students in other classes in the same school, who were quite similar to the students in the sexuality class except for their non-participation in the sexuality class; other sites did not have control groups from the same school or organization and we had to use control groups from other sites that were administered questionnaires at different times than the experimental groups. Potentially, this was a significant problem.

However, for several reasons, it does not appear likely that the lack of random assignment or inadequate control groups affected the conclusions. First, the results of the programs with good control groups from the same site are very similar to the results of the programs with control groups from different sites. Second, we matched each sexuality class with the control group that was most similar in terms of age; social, economic, racial, and rural vs urban composition; and duration of time between pretests and posttests. Third, whenever the control group did not come from the same site, we matched the experimental group with more than one other control group to make sure that the results were about the same, and in nearly all cases they were. When the results were substantially different, that was explained in the text. Fourth, when we combined all sites into longer and shorter programs and used all possible control groups together, the results remained similar to those of each site. Fifth, many of the outcomes were not statistically significant because there were only small changes between the pretests and posttests, not because there were substantively large increases that were matched by the control groups. Sixth, most changes in the control groups are consistent with what we know about adolescent sexual development from other studies, e.g., as they grow older, adolescents learn more about sexuality, and engage more frequently in sex. Thus, it does not appear likely that inadequate control groups caused programs to appear less effective than they actually were. However, if the sample sizes of the control groups had been larger and the magnitudes of any differences had remained the same, then some small changes in the sexuality classes would have become statistically significant.

In some sites both the experimental and control groups improved their scores. This suggests that the experimental group may have talked to, dated, or otherwise affected the control group. However, this possible explanation is not likely because the measured changes in the experimental group were far too small to have had much of an impact upon the control group.

Measurement of delayed effects. We were able to administer second posttests three to six months after the end of most programs. Thus, we measured more long term effects than have most evaluations. Nevertheless, there is certainly the possibility that we would have obtained different results if we had measured the impact of the program one to five years later.

However, it does not seem likely that knowledge, attitudes, comfort, or skills would be affected after the second posttest if they were not affected prior to the second posttest. Far more commonly, the effects of courses upon knowledge, attitudes, comfort, and skills diminish with time; they do not increase with time.

Whether or not the courses may have longer term effects upon behavior is less certain. For example, if courses do increase the use of birth control, then the students who are not sexually active will not be affected until they become sexually active, and they may not become sexually active for several years. On the other hand, in many of the courses, especially those for juniors and seniors, substantial numbers of the particpants were already sexually active and were not using birth control when the pretests were administered and there was no evidence that they decreased the frequency of their unprotected sexual activity. If the courses did not have an impact upon them during the course or within a few months after the course, then it is not likely that it would have a substantial impact on them or other students later.

In sum, it is certainly possible, but not likely, that failing to measure the impact of courses beyond three to five months obscured a greater effectiveness of the courses.

Content of the questionnaires. It is possible that the questionnaires were not reliable or valid and thus did not measure validly the effectiveness of the courses. As noted above, some portions of the questionnaires were probably more reliable and valid than others. For example, the scales measuring skills may have been less valid, while the knowledge test and behavior questions were probably more valid.

However, for several reasons it is not likely that the quality of the questions and scales obscured actual effects of programs. First, the test-retest reliability coefficents and the inter-item reliability coefficients indicated that the questionnaires were reliable. Second, some students in some sites may have had difficulty understanding some of the questions, but the results from those sites were very similar to the results from sites where the students clearly understood the questions and answered them carefully. Third, some parts of the questionnaires were clearly valid, and they did not demonstrate much greater impact than other parts.

Administration of questionnaires. In one site the administration of the questionnaires on one occasion was haphazard and the students may not have treated the questionnaires seriously. It is certainly possible, although not likely, that the adminstration was also poor at other times at other sites.

However, for two reasons it does not seem likely that poor adminstration would have made programs appear less effective than they actually were. First, at the one site where the administration was poor, all the questionnaires for that entire year were excluded from the analysis and only the questionnaires administered more rigorously during the other years were analyzed. Those results were slightly better, but they nevertheless gave the same overall picture. Second, we are far more confident that the questionnaires were administered carefully and completed rigorously in most sites, yet the results from those sites were similar to the results from a few sites where completion might not have been so rigorous.

Statistical analysis. Despite our great care in keypunching the data, there are undoubtedly some errors in some of the tables. However, these errors are not at all likely to have affected the conclusions of this research. First, all the keypunching was verified. Second, we statistically analyzed the data in many different ways -- we dichotomized some variables; we compared each site with several different control groups; we divided the data for each site by year and analyzed each year; we conducted both matched pairs and unmatched t-tests; we examined other kinds of tests of significance; we examined multiple regression results; and we did many other kinds of analysis to be sure that these findings were not misleading, inaccurate, or artifactual. All these other analyses provide a similar picture of the effects of the programs. We have presented in this volume only about one-tenth of the analysis actually conducted; the other nine-tenths suggest the same conclusions. Thus, it is highly unlikely that the data presented in the tables give a misleading picture.

However, one caution is in order. Much of the analysis relied upon tests of significance and all results with a significance of .050 or less are reported in the tables. By definition, some of these reported results undoubtedly occurred by chance (i.e. random factors caused them, not programs). For example, the .05 level of significance means that 5 times out of 100 times random factors will produce results as different as or as significant as the observed results. Thus, when the significance of 100 outcomes is measured, on the average 5 of them will be statistically significant at the .05 level because of random factors. In this evaluation we analyzed the results of several hundred outcomes among the ten prgrams. Thus, some of these results are statistically significant even when they were produced by random factors. The reader should be aware of this when reviewing the tables.

To minimize the impact of this problem, we did several things. First, in the text we focused upon those outcomes that had a higher level of significance (e.g. .01 or .001). Second, we often checked the reported results against unreported analysis and made sure they were consistent. When they were not, and the differences were likely to be due to random factors or other factors, we reported that in the text. Third, in Chapter 17 we collapsed the sites into two groups, increased our sample sizes, and observed the major changes. Thus, some of the results in the individual tables are undoubtedly caused by random factors, but most of the conclusions reported below are probably not caused by random factors.

In sum, the pretest/posttest data are probably the most valid data of the three kinds of data collected in this research.

Pregnancy Data

The errors associated with the pregnancy data differ with each site. At University City High School, the analysis is probably the most valid. The clinic is certainly not aware of many of the pregnancies that occur in the school, but this should affect both the experimental and control groups equally, and the number of pregnancies is sufficiently large to conduct a good statistical analysis. At Ferndale High School, the data are probably the most complete, but the numbers of pregnancies each year are small and it would be difficult for the program to show a statistically significant impact. At San Antonio, the analysis is the least valid of the three -- many pregnancies among the students were not identified in the clinic data, and the pregnancy data were probably more complete in the schools where Planned Parenthood implemented their programs and less complete in the other schools. This bias would tend to obscure any positive effect the program had in reducing pregnancies.

However, it is important to note that the possible methodological errors are different in each site, and all three analyses suggest the same conclusion. Moreover, that conclusion is also supported by the pretest/posttest data. In none of the three sites was there any indication that if sample sizes could be increased, or other methodological problems could be improved, the conclusions would be different. That is, there were no trends that were almost significant.

In sum, the pregnancy analyses are less valid than the pretest/posttest data analyses. However, their strength lies in the fact that they represent different methods that produce the same conclusions.

Student and Parent Assessments of the Courses

The student and parent assessments of the courses are probably the least valid of the three different methods. There are several reasons. First, course assessments commonly give overly positive and biased results regardless of the topic or course. Such a bias is particularly likely to occur when the students and parents like both the teacher and the course, as they do here. Second, the pretest/posttest data indicated that both the experimental and control groups changed on some outcomes. Students and their parents may have perceived this small amount of change, and may have incorrectly attributed it to the course, when in fact it would have taken place anyway. It would certainly be difficult for the parents to know whether the courses or normal maturation were causing the changes. Finally, the course assessments were typically administered at the end of the course when the greatest amount of change had taken place, not during the second posttest when the impact may have diminished. Thus, the assessments are undoubtedly less valid than the pretest/posttest data.

However, for a variety of reasons these course assessments should not be totally ignored. First, there was an internal validity among them -- participants in shorter courses reported less impact than those in longer courses, and they reported the courses had an impact upon those outcomes which would most likely be affected by the course (e.g., attitude toward birth control) rather than those outcomes which would be least affected (e.g. self esteem). Second, course assessments may be more sensitive than pretest/posttest questionnaires. Students may be able to observe small changes in themselves caused by the course that would not have been statistically significant. Third, these data represent a different methodology with a different set of errors and biases, and the data should be compared with that from other methods.

Implications for Future Research Methods

This research has numerous implications for people conducting future research.

Experimental Design

This study clearly demonstrated the need for control groups, and if possible, random assignment to the experimental and control groups. Some sites had statistically significant changes between the pretests and posttests, but their respective control groups also had changes, and commonly the changes in the experimental groups were not statistically significantly greater than the change in the control groups. Thus, without control groups, one might erroneously conclude that changes in the experimental group were due to the program, when in fact they were due to other external factors such as maturation.

Measurement of Long Term Effects

In this study we measured effects three to five months after the end of each program. This proved to be important because many effects did diminish with time. Altough most effects would become apparent within that time span, we were not able to measure longer term effects, and future researchers should do so.

Sample Size

If the effects of sexuality education programs are small, then researchers need large sample sizes (e.g., 200 or more) to pick up these effects. When we divided the data from each site according to its academic year, the sample sizes greatly diminished, and the analyses produced some statistically significant, but seemingly bizarre and random effects which were misleading. Moreover, the one previous study to find any consistent changes in attitudes and skills had sample sizes greater than 1,000.

Questionnaire Design

In this study we had considerable resources and tried to measure with questionnaires the impact of programs upon most of the knowledge, attitude, skill, and behavior components that professionals in the field believe are important to reduce unwanted pregnancy and improve psychological health. Measuring a large number of knowledge areas, attitudes, and behaviors with questionnaires worked reasonably well, and we have little evidence that the lengthy questionnaires were less reliable and valid than the shorter questionnaires, especially when questions were divided among different questionnaires and administered on different days. However, given the findings of this research, researchers in the future can probably improve their study by focusing upon a smaller number of outcomes and administering shorter questionnaires.

In the past, many researchers have been reluctant to ask direct questions about sexual behavior. Although we had difficulty obtaining parental permission in some sites, most students seemed to answer the questions honestly and comfortably. However, maintaining anonymity is critical, if the questionnaires include personal questions.

Selection of Programs for Evaluation

In this study our contract with the Centers for Disease Control specified that we should compare a variety of different approaches to sexuality education and determine their relative effectiveness in achieving different outcomes. In this endeavor we were quite successful. For example, we found that sexuality education in combination with a school clinic will reduce pregnancies and that joint parent/child programs will increase parent/child communication. However, in general, most researchers will probably be more successful if they study more examples of a particular kind of program with a particular curriculum, instead of evaluating a variety of different approaches. This will increase the sample size and possibly cancel out other unwanted extraneous factors such as the poor administration of questionnaires at one site at one time.

Costs of Doing Research

This research project has demonstrated that it is possible, but also very difficult, costly, and time consuming to conduct a thorough evaluation of programs. It is particularly difficult and costly to measure the impact of programs upon long term changes in attitudes and behavior. Further research is clearly needed, but those organizations which are requiring, funding, or conducting research should have realistic expectations about the costs of good evaluations.

Conclusions

This evaluation provides evidence for the following:

- The sexuality education programs increased knowledge about sexuality, and this increase tended to be greater among younger participants. Thus, there appears to be nothing special about topics in sexuality that makes them especially difficult or impossible to learn. Moreover, the students retained this knowledge until they took the second posttests four to six months later.

- The parent/child programs and a few (but not all) of the more comprehensive programs increased the reported clarity of the participants' values. In a few additional programs there were substantial increases in this and other areas of self understanding among the sexuality students, but these increases were paralleled by increases among the control groups. Apparently many real life experiences have a more dominant impact upon self understanding.

- Some of the longer programs may have prevented the attitudes of participants from becoming increasingly more liberal toward premarital sex. Young people throughout the country tend to become more permissive toward premarital sex as they grow older. While the control groups became more permissive, the sexuality students in the longer, more comprehensive programs did not. This suggests the programs had a conservative effect upon their attitudes.

- None of the programs had any significant impact upon reported attitudes toward the importance of birth control. The mean scores of both experimental and control students were quite high even before the courses, but there remained room for improvement, and both the sexuality students and the control students demonstrated small increases over time.

- Some, but not all, of the longer programs also increased the students' opposition to the use of pressure and force in social and sexual relations. This might reduce negative peer pressure.

- Most of the longer programs did not have any measurable impact upon existing attitudes toward gender roles, sexuality in life, or the importance of the family.

- None of the longer programs had any measurable impact upon self esteem, satisfaction with sexuality, and satisfaction with social relationships. Among both experimental and control groups there was considerable stability in these measures.

- Almost none of the programs had any measurable impact upon reported social decisionmaking, sexual decisionmaking, communication, assertiveness, or birth control assertiveness skills as they are practiced in everyday life.

- Most of the programs did not have any consistent impact upon comfort with most social activities, communication with others about sexuality, or using birth control.

- In contrast with other programs, the parent/child programs did increase the comfort of the parents talking about sex and to a lesser extent increased the comfort of the children. The course for younger children was more successful than the course for older children.

- Most programs did not have any measureable impact upon the reported frequency of conversations about either sex or birth control with parents, friends, or boyfriends and girlfriends.

- In contrast to the other programs, the parent/child program for younger children did significantly increase reported communication between parents and children, even four months after the program ended. The parent/child program for older children also had substantial increases, but the increases were not statistically significant because of small sample sizes.

- The programs did not increase or decrease the amount of reported sexual activity. They had no impact upon the proportions of participants who had ever had sex or who had sex the previous month. They also had no impact upon the number of sexual acts during the previous month.

- The non-clinic programs did not perceptibly affect the reported use of birth control. In particular, they did not affect the frequency of sexual activity without birth control, with poor methods of birth control, or with effective methods of birth control.

- None of the non-clinic programs had any measured impact upon pregnancy.

- The education/clinic approach increased the use of birth control, and substantially reduced births. It also increased the proportion of pregnant adolescents who remained in school, and it decreased the number of repeat pregnancies among them.

These findings are quite clear and striking. The programs which were primarily educational had an impact mostly upon knowledge; the only programs that had a clear impact upon behavior were those that clearly provided a directly relevant experiential component -- the parent/child program actually started the parents and their children communicating right there in the classroom, and the clinic directly helped the students obtain more effective types of birth control. In other words, these two programs did not just talk about desired behavior; they initiated the desired behavior.

These findings are quite consistent with the review of the literature in Chapter 3. Many studies of sexuality education have found that programs increase knowledge; a few studies found that programs affected attitudes, while a few others found no affect; a few studies found that programs had no impact on the amount of sexual behavior; and a few studies found that education/clinic combinations increased the use of birth control and reduced pregnancies. Thus, these previous studies using both similar and different methods produced conclusions similar to those in this research.

However, the conclusions of this research do differ somewhat from those of Zelnik and Kim. Their analysis of their national survey data indicates that sexuality education programs increase the use of birth control and reduce pregnancies. Their data are based upon large sample sizes and may better measure longer term effects, but unfortunately, their data do not provide much information about the characteristics of the sexuality education programs in which respondents may have participated, and by virtue of being survey data, their data cannot demonstrate causality.

The findings in this evaluation are also remarkably consistent with studies of other kinds of educational programs. They typically find that schools can effectively increase knowledge, but have little impact upon most attitudes, psychological attributes, and behavior. These findings are also consistent with studies showing the greater impact of experiential programs than more didactic approaches.

From research in other areas and from our own practical experience we know that changing attitudes, self esteem, and behavior is very difficult. If we want to be realistic, we should not expect 6 hours, or even 75 hours, in class to change attitudes and behavior patterns based upon strong emotional needs, strong sexual desires, years of communication or noncommunication with parents, thousands of hours of television and other media exposure, and thousands of hours of interaction with peers.

It is important to consider the extent to which these findings in this report can be generalized to other sexuality education programs. These findings are based upon programs developed by ten different organizations, some of which had multiple components or approaches. This is a rather small number of programs, and obviously they were not randomly selected. However, they were among the best programs that we could find at the time, and some of them have excellent national reputations. Moreover, we provided considerable resources -- opportunities for training at different places, physical materials and resources, and the benefit of ongoing evaluations. Thus, it does not seem likely that other similar programs would be much more successful.

Generalizing from these programs to other less similar educational approaches is more risky. However, these programs represent a variety of different approaches that were considered by many professionals in the field to represent the most promising approaches and again the pattern was clear -- the educational approaches that talked about behavior primarily affected knowledge; the experiential programs that focused directly upon behavior changed behavior.

Some sexuality educators that have reviewed these findings have been tempted to explain the more limited success of the educational approaches by finding fault with some particular aspect of one or more programs and arguing that that aspect was the problem. Some educators have argued that programs do not sufficiently stress abstinence and consequently do not prevent sexual activity and pregnancy. Others argue the reverse -- that programs are too conservative, do not accept the adolescents' sexuality, increase guilt, decrease the adolescents' acceptance that they are or will be sexually active, and thereby reduce the use of birth control. Others argue that there should be greater focus upon decisionmaking; others that there should be greater focus on role playing; others argue for communication; still others for communication between actual boyfriends or girlfriends. It is impossible to argue that these or other changes would not make the programs more effective, and indeed one or more of these changes may very well increase program effectiveness. However, the data from the programs evaluated herein, and the general history of educational solutions to adolescent problems indicate that educational approaches alone will not substantially change behavior, while programs that provide experiences directly related to the behavioral goal can change the behavior.

In several areas of health education, there is also a growing interest in the application of social learning theory. Social learning theory places a much greater emphasis upon rewarding or reenforcing positive behaviors. It also suggests that in the classroom there should be a greater emphasis upon upon modeling, role playing, skill development, practice, and contracting. That approach is consistent with the data from this research, thus, it may also increase the effectiveness of sexuality education.

The conclusions of this research have serious implications for educators. Specifically, they suggest that existing programs should have less ambitious goals, or if educators want programs to affect behavior, they may need to focus upon a particular goal, and design both the structure and content of the program to achieve that goal. For example, the parent/child program and the clinic were specifically designed to affect parent/child communication and the use of contraception, respectively, and they were successful.

The failure of most of the programs to affect behavior at the end of the program or four to five months later does not mean that sexuality education should be abandoned. On the contrary, there remain good reasons to maintain and further develop sexuality education. First, many students in the programs we evaluated claimed that these programs had positive effects upon them. In the class evaluations, students expressed numerically many positive results. In personal interviews or group discussions, they expressed verbally particular insights or other particular ways in which the class had helped them. Second, many parents also support the programs and believe they are effective. Third, as noted above, the pretest/posttest data also demonstrated a few positive effects. Finally, through careful development and evaluation, sexuality education may improve and subsequently have greater impact. It is still a young field generating many different ideas and innovations.

In sum, to the extent that one can generalize from these ten programs to other programs, this evaluation indicates that if the goal is to increase knowledge, both short and long sexuality education programs can do that; if the goal is to increase clarity of values, more comprehensive programs may be able to have a small impact; if the goal is to increase parent/child communication, parent/child programs which bring parents and their children together and start them communicating can succeed; if the goal is to reduce unintended teenage pregnancy, an education/clinic combination can dramatically succeed.

Traditionally, many studies end by calling for additional research. That call is particularly appropriate here. Sexuality education is growing in prevalence, scope, and diversity. Educators and others are continually developing new approaches. Some of these approaches are undoubtedly more effective than others, and we need to know which ones are more effective so that they can be further improved and more widely adopted. Clearly, there remain many unanswered questions about the most effective approaches to reducing the problems of adolescent and adult sexual behavior. Further program development and evaluation can help us answer more of those questions.

APPENDIX

QUESTIONNAIRES USED IN THE EVALUATION

In this appendix are the basic questionnaires that we used to evaluate the programs. The Integrated Questionnaire contains questions from the Knowledge Test, the Attitude and Value Inventory, and the Behavior Inventory. All four of these questionnaires were administered before and after participation in the programs. The Class Evaluation for Students and the Class Evaluation for Parents were administered after participation in the programs.

We administered other questionnaires, but all of them were based upon these and differed from them in only two ways -- some of them had a few questions removed because those questions were inappropriate for particular sites, and some had slight word changes (e.g., "course" was replaced with "conference" in the conference sites).

Although our analysis of these questionnaires indicates that they are reliable and valid, our experience with them suggested minor improvements that are incorporated in the versions found in Sexuality Education: A Handbook for the Evaluation of Programs. Chapter 4 of this volume discusses the development of the questionnaires and provides their reliability coefficients.

The Knowledge Test, Attitude and Value Inventory, and Behavior Inventory included numerous scales. Following are the question numbers for each scale. Because the items in the Attitude and Value Inventory are much more meaningful when grouped together as scales, we have grouped all the items by scale at the end of that questionnaire.

Scales in the Knowledge Questionnaire	Question Numbers
Adolescent physical Development	2, 8, 13, 15, 25, 28
Adolescent Relationships	22, 27, 29
Adolescent Sexual Activity	1, 3, 16, 17
Adolescent Pregnancy	6, 20, 23
Adolescent Marriage	9, 30
Probability of Pregnancy	5, 10, 12, 19
Birth Control	4, 11, 18, 26, 31, 32, 34
Sexually Transmitted Disease	7, 14, 21, 24, 33

Scales in the Attitude and Value Inventory	Question Numbers
Clarity of Long Term Goals	10, 23, 30, 37, 51
Clarity of Personal Sexual Values	5, 13, 25, 49, 70
Understanding of Emotional Needs	14, 17, 48, 56, 62
Understanding of Personal Social Behavior	6, 19, 27, 34, 66
Understanding of Personal Sexual Response	21, 31, 36, 45, 52
Attitude Toward Various Gender Role Behaviors	8, 28, 41, 50, 65
Attitude Toward Sexuality In Life	12, 42, 55, 58, 64
Attitude Toward the Importance of Birth Control	4, 16, 40, 59, 61
Attitude Toward Premarital Intercourse	2, 20, 22, 29, 63
Attitude Toward the Use of Pressure and Force in Sexual Activity	9, 15, 46, 47, 54
Recognition of the Importance of the Family	11, 24, 53, 60, 69
Self Esteem	3, 26, 35, 44, 68
Satisfaction with Personal Sexuality	7, 18, 33, 39, 57
Satisfaction with Social Relationships	1, 32, 38, 43, 67

Scales in the Behavior Inventory	Question Numbers
Social Decisionmaking Skills	1, 2, 3, 4, 5, 6
Sexual Decisionmaking Skills	7, 8, 9, 10, 11
Communication Skills	12, 13, 14, 15, 16, 17, 18, 19
Assertiveness Skills	20, 21, 22
Birth Control Assertiveness Skills	23, 24
Comfort Engaging in Social Activities	25, 26, 27, 28
Comfort Talking with Friends, Girlfriend or Boyfriend, and Parents about Sex	29, 30, 31, 36
Comfort Talking with Friends, Girlfriend or Boyfriend, and Parents about Birth Control	32, 33, 34
Comfort Talking with Parents about Sex and Birth Control	31, 34

Comfort Expressing Concern and Caring	35
Comfort Being Sexually Assertive	36, 37
Comfort Having Current Sex Life, Whatever It May Be	38
Comfort Getting and Using Birth Control	39, 40, 41, 42

Form 1

KNOWLEDGE TEST

Many schools and other organizations around the country have developed sex education programs to help reduce some of the sexual problems of teenagers such as unwanted pregnancy and venereal diseases. To find out if programs are successful, we have selected a program in your school as part of a national study and we are carefully evaluating it. For this evaluation we are giving questionnaires to both participants and non-participants of the program. Because this national study is very important, your answers to this questionnaire are also very important.

Please answer the questions by putting a circle around the best answer. There is only one best answer for each question. Please be sure to answer all questions.

On many questions several of the possible answers are wrong. Please do not think answers are true or false just because they are printed here.

This questionnaire is completely anonymous (no one will know it is yours). Therefore, do NOT put your name anywhere on the test. Use a normal pencil or pen so that all questionnaires will look about the same.

Thank you for your help.

Name of school ______________________

Name of course ______________________

Teacher's name ______________________

Your birth date: Month _________ Day _____

Your sex (Check one) Male ___ Female ___

Your grade level in school (Check one)
8 ___
9 ___
10 ___
11 ___
12 ___

This study is sponsored by the Center for Disease Control in Atlanta, Georgia and is authorized by Section 301 of the Public Health Service Act. Your participation in this study is entirely voluntary, and you may refuse to answer any or all of the questions.

Approved OMB# 68-S-80002
Expires Sept. 1981

1. By the time they graduate from high schools in the United States:

   a. few teenagers have had sexual intercourse.
   b. about half of all teenagers have had sexual intercourse.
   c. about eighty percent of allteenagers have had sexual intercourse.

2. During their menstrual periods, girls:

   a. are too weak to participate in sports.
   b. experience a normal monthly release of blood and tissue from the uterus.
   c. are unable to become pregnant.
   d. should not shower or bathe.
   e. all of the above.

3. It is harmful for a woman to have sexual intercourse when she:

   a. is pregnant.
   b. is menstruating.
   c. has a cold.
   d. has a sexual partner with syphillis.
   e. none of the above.

4. Some contraceptives:

   a. can be obtained only with a doctor's prescription.
   b. are available at family planning clinics.
   c. can be bought over the counter at drug stores.
   d. can be obtained by people under 18 without parental consent.
   e. all of the above.

5. If ten couples have sexual intercourse regularly without using any kind of birth control, the number of couples who become pregnant by the end of one year is about:

   a. one.
   b. three.
   c. six.
   d. nine.
   e. none of the above.

6. When unmarried teenage girls learn they are pregnant, the largest group of them decide:

   a. to have an abortion.
   b. to put the child up for adoption.
   c. to raise the child at home.
   d. to marry and raise the child together.
   e. none of the above.

7. People having sexual intercourse can best prevent VD by:

   a. using condoms (rubbers).
   b. using contraceptive foam.
   c. using the pill.
   d. using withdrawal (pulling out).

8. When boys go through puberty:

a. they lose their "baby fat" and become slimmer.
b. their penises become larger.
c. they produce sperm.
d. their voices become lower.
e. all of the above.

9. Married teenagers:

a. have the same social lives as their unmarried friends.
b. avoid pressure from friends and family.
c. still fit in easily with their old friends.
d. usually support themselves without parental help.
e. none of the above.

10. If a couple has sexual intercourse and uses no birth control, the woman might get pregnant:

a. any time during the month.
b. only one week before menstruation begins.
c. only during menstruation.
d. only one week after menstruation begins.
e. only two weeks after menstruation begins.

11. The method of birth control which is least effective is:

a. a condom with foam.
b. the diaphragm with spermicidal jelly.
c. withdrawal (pulling out).
d. the pill.
e. abstinence (not having intercourse).

12. A woman can become pregnant:

a. the first time she has sexual intercourse.
b. if she has sexual intercourse during her menstrual period.
c. if she has sexual intercourse standing up.
d. if the male sperm gets near the opening of the vagina, without the man actually entering her body.
e. all of the above.

13. Regarding the age of physical maturity:

a. girls usually mature earlier than boys.
b. most boys mature earlier than most girls.
c. all boys and girls are fully mature by age 16.
d. all boys and girls are fully mature by age 18.

14. It is impossible now to cure:

a. syphilis.
b. gonorrhea.
c. herpes virus #2.
d. vaginitis.
e. all of the above.

15. When men and women are physically mature:

   a. female ovaries release two eggs each month, one from each ovary.
   b. female ovaries release millions of eggs each month from each ovary.
   c. male testes produce one sperm for each ejaculation (climax).
   d. male testes produce millions of sperm for each ejaculation (climax).
   e. none of the above.

16. Teenagers who choose to have sexual intercourse may possibly:

   a. have to deal with a pregnancy.
   b. feel guilt.
   c. become more close to their sexual partners.
   d. become less close to their sexual partners.
   e. all of the above.

17. As they enter puberty, teenagers become more interested in sexual activities because:

   a. their sex hormones are changing.
   b. the media (e.g., TV, movies, magazines, records) push sex for teenagers.
   c. some of their friends have sex and expect them to have sex also.
   d. all of the above.

18. To use a condom the correct way, a person must:

   a. leave some space at the tip for the guy's fluid.
   b. use a new one every time sexual intercourse occurs.
   c. hold it on the penis while withdrawing from the vagina.
   d. all of the above.

19. The proportion of American girls who become pregnant before turning 20 is:

   a. 1 out of 3.
   b. 1 out of 11.
   c. 1 out of 43.
   d. 1 out of 90.

20. In general, children born to young teenage parents:

   a. have few problems because their parents are emotionally mature.
   b. have a greater chance of being abused by their parents.
   c. have normal birth weight.
   d. have a greater chance of being healthy.
   e. none of the above.

21. Treatment for venereal disease is best if:

   a. both partners are treated at the same time.
   b. only the partner with the symptoms sees a doctor.
   c. medication is taken only as long as the symptoms remain.
   d. the partners continue having sexual intercourse.
   e. all of the above.

22. Most teenagers:

a. have crushes or infatuations that last a short time.
b. feel shy or awkward when first dating.
c. feel jealous sometimes.
d. worry a lot about their looks.
e. all of the above.

23. Most unmarried girls who have children while still in high school:

a. depend upon their parents for support.
b. finish high school and graduate with their class.
c. never have to be on public welfare.
d. have the same social lives as their peers.
e. all of the above.

24. Syphilis:

a. is one of the most dangerous of the venereal diseases.
b. is known to cause blindness, insanity and death if untreated.
c. is first detected as a chancre sore on the genitals.
d. all of the above.

25. For a boy, nocturnal emissions (wet dreams) means he:

a. has a sexual illness.
b. is fully mature physically.
c. is experiencing a normal part of growing up.
d. is different from most other boys.

26. If people have sexual intercourse, the advantages of using condoms are:

a. they help prevent getting or giving VD.
b. they can be bought in drug stores by either sex.
c. they do not have dangerous side effects.
d. they do not require a prescription.
e. all of the above.

27. If two people want to have a close relationship, it is important that they:

a. trust each other and are honest and open with each other.
b. date other people.
c. always think of the other person first.
d. always think of their own needs first.
e. all of the above.

28. The physical changes of puberty:

a. happen in a week or two.
b. happen to different teenagers at different ages.
c. happen quickly for girls and slowly for boys.
d. happen quickly for boys and slowly for girls.

29. For most teenagers, their emotional responses:

a. are pretty stable.
b. seem to change frequently.
c. don't concern them very much.
d. are easy to put into words.
e. are ruled by their thinking.

30. Teenagers who marry, compared to those who do not:

a. are equally likely to finish high school.
b. are equally likely to have children.
c. are equally likely to get divorced.
d. are equally likely to have successful work careers.
e. none of the above.

31. The rhythm method (natural family planning):

a. means couples cannot have intercourse during certain days of the woman's menstrual cycle.
b. requires the woman to keep a record of when she has her period.
c. is effective less than 80% of the time.
d. is recommended by the Catholic Church.
e. all of the above.

32. The pill:

a. can be used by all women.
b. is a good birth control method for women who smoke.
c. usually makes menstrual cramping worse.
d. must be taken for 21 or 28 days in order to be effective.
e. all of the above.

33. Gonorrhea:

a. is ten times more common than syphilis.
b. is a disease which can be passed from mothers to their children during birth.
c. makes many men and women sterile (unable to have babies).
d. is often difficult to detect in women.
e. all of the above.

34. People choosing a birth control method:

a. should think only about the cost of the method.
b. should choose whatever method their friends are using.
c. should learn about all the methods before choosing the one that's best for them.
d. should get the method that's easiest to get.
e. all of the above.

Form 1

ATTITUDE AND VALUE INVENTORY

Many schools and other organizations around the country have developed sex education programs to help reduce some of the sexual problems of teenagers such as unwanted pregnancy and venereal diseases. To find out if programs are successful, we have selected a program in your school as part of a national study and we are carefully evaluating it. For this evaluation we are giving questionnaires to both participants and non-participants of the program. Because this national study is very important, your answers to this questionnaire are also very important.

This is NOT a knowledge test. There are no right or wrong answers. Your answer is correct if it accurately describes you.

This questionnaire will be completely anonymous (no one will know it is yours) and it will be used for statistical purposes only. Therefore, do NOT put your name anywhere on this questionnaire. Use a normal pencil or pen so that all questionnaires will look about the same.

Thank you for your help.

Name of school ________________________

Name of course ________________________

Teacher's name ________________________

Your birth date: Month _________ Day ____

Your sex (Check one) Male ___ Female ___

Your grade level in school (Check one)
9 ___
10 ___
11 ___
12 ___

This study is sponsored by the Center for Disease Control in Atlanta, Georgia and is authorized by Section 301 of the Public Health Service Act. Your participation in this study is entirely voluntary, and you may refuse to answer any or all of the questions.

Approved OMB# 68-S-80002
Expires Sept. 1981

The items on the ATTITUDE AND VALUE INVENTORY are a list of statements. Please rate each item on a 1 to 5 scale according to how much you agree or disagree with the statement.

Circle: 1 if you strongly disagree with the statement.
2 if you disagree with the statement.
3 if you feel neutral about the statement.
4 if you agree with the statement.
5 if you strongly agree with the statement.

		strongly disagree	disagree	neutral	agree	strongly agree
1.	I am very happy with my friendships.	1	2	3	4	5
2.	Unmarried people should not have sex.	1	2	3	4	5
3.	Overall, I am satisfied with myself.	1	2	3	4	5
4.	Two people having sex should use some form of birth control, if they aren't ready for a child.	1	2	3	4	5
5.	I'm confused about my personal sexual values and beliefs.	1	2	3	4	5
6.	I often find myself acting in ways I don't understand.	1	2	3	4	5
7.	I am not happy with my sex life.	1	2	3	4	5
8.	Men should not hold jobs traditionally held by women.	1	2	3	4	5
9.	People should never take "no" for an answer when they want to have sex.	1	2	3	4	5
10.	I don't know what I want out of life.	1	2	3	4	5
11.	Families do very little for their children.	1	2	3	4	5
12.	Sexual relationships create more problems than they're worth.	1	2	3	4	5
13.	I'm confused about what I should and should not do sexually.	1	2	3	4	5
14.	I know what I want and need emotionally.	1	2	3	4	5
15.	A person should not pressure someone into sexual activity.	1	2	3	4	5
16.	Birth control is not very important.	1	2	3	4	5
17.	I know what I need to be happy.	1	2	3	4	5

		strongly disagree	disagree	neutral	agree	strongly agree
18.	I am not satisfied with my sexual behavior.	1	2	3	4	5
19.	I usually understand the way I act.	1	2	3	4	5
20.	People should not have sex before marriage.	1	2	3	4	5
21.	I do not know much about my own physical and emotional sexual response.	1	2	3	4	5
22.	It is all right for two people to have sex before marriage if they are in love.	1	2	3	4	5
23.	I have a good idea of where I'm headed in the future.	1	2	3	4	5
24.	Family relationships are not important.	1	2	3	4	5
25.	I have trouble knowing what my beliefs and values are regarding my personal sexual behavior.	1	2	3	4	5
26.	I feel I do not have much to be proud of.	1	2	3	4	5
27.	I understand how I behave around others.	1	2	3	4	5
28.	Women should behave differently from men most of the time.	1	2	3	4	5
29.	People should have sex only if they are married.	1	2	3	4	5
30.	I know what I want out of life.	1	2	3	4	5
31.	I have a good understanding of my own sexual feelings and reactions.	1	2	3	4	5
32.	I don't have enough friends.	1	2	3	4	5
33.	I'm happy with my sexual behavior now.	1	2	3	4	5
34.	I don't understand why I behave with my friends as I do.	1	2	3	4	5
35.	At times I think I'm no good at all.	1	2	3	4	5

		strongly disagree	disagree	neutral	agree	strongly agree
36.	I know how I react in different sexual situations.	1	2	3	4	5
37.	I have a clear picture of what I'd like to be doing in the future.	1	2	3	4	5
38.	My friendships are not as good as I would like them to be.	1	2	3	4	5
39.	Sexually, I feel like a failure.	1	2	3	4	5
40.	More people should be aware of the importance of birth control.	1	2	3	4	5
41.	At work and at home, women should not have to behave differently than men, when they are equally capable.	1	2	3	4	5
42.	Sexual relationships make life too difficult.	1	2	3	4	5
43.	I wish my friendships were better.	1	2	3	4	5
44.	I feel that I have many good personal qualities.	1	2	3	4	5
45.	I am confused about my reactions in sexual situations.	1	2	3	4	5
46.	It is all right to pressure someone into sexual activity.	1	2	3	4	5
47.	People should not pressure others to have sex with them.	1	2	3	4	5
48.	Most of the time my emotional feelings are clear to me.	1	2	3	4	5
49.	I have my own set of rules to guide my sexual behavior.	1	2	3	4	5
50.	Women and men should be able to have the same jobs, when they are equally capable.	1	2	3	4	5
51.	I don't know what my long-range goals are.	1	2	3	4	5
52.	When I'm in a sexual situation, I get confused about my feelings.	1	2	3	4	5
53.	Families are very important.	1	2	3	4	5

		strongly disagree	disagree	neutral	agree	strongly agree
54.	It is all right to demand sex from a girlfriend or boyfriend.	1	2	3	4	5
55.	A sexual relationship is one of the best things a person can have.	1	2	3	4	5
56.	Most of the time I have a clear understanding of my feelings and emotions.	1	2	3	4	5
57.	I am very satisfied with my sexual activities just the way they are.	1	2	3	4	5
58.	Sexual relationships only bring trouble to people.	1	2	3	4	5
59.	Birth control is not as important as some people say.	1	2	3	4	5
60.	Family relationships cause more trouble than they're worth.	1	2	3	4	5
61.	If two people have sex and aren't ready to have a child, it is very important that they use birth control.	1	2	3	4	5
62.	I'm confused about what I need emotionally.	1	2	3	4	5
63.	It is all right for two people to have sex before marriage.	1	2	3	4	5
64.	Sexual relationships provide an important and fulfilling part of life.	1	2	3	4	5
65.	People should not be expected to behave in certain ways just because they are male or female.	1	2	3	4	5
66.	Most of the time I know why I behave the way I do.	1	2	3	4	5
67.	I feel good having as many friends as I have.	1	2	3	4	5
68.	I wish I had more respect for myself.	1	2	3	4	5
69.	Family relationships can be very valuable.	1	2	3	4	5
70.	I know for sure what is right and wrong sexually for me.	1	2	3	4	5

SCALES IN THE ATTITUDE AND VALUE INVENTORY

Clarity of Long Term Goals

10. I don't know what I want out of life.
23. I have a good idea of where I'm headed in the future.
30. I know what I want out of life.
37. I have a clear picture of what I'd like to be doing in the future.
51. I don't know what my long range goals are.

Clarity of Personal Sexual Values

5. I'm confused about my personal sexual values and beliefs.
13. I'm confused about what I should and should not do sexually.
25. I have trouble knowing what my beliefs and values are regarding my personal sexual behavior.
49. I have my own set of rules to guide my sexual behavior.
70. I know for sure what is right and wrong sexually for me.

Understanding of Emotional Needs

14. I know what I want and need emotionally.
17. I know what I need to be happy.
48. Most of the time my emotional feelings are clear to me.
56. Most of the time I have a clear understanding of my feelings and emotions.
62. I'm confused about what I need emotionally.

Understanding of Personal Social Behavior

6. I often find myself acting in ways I don't understand.
19. I usually understand the way I act.
27. I understand how I behave around others.
34. I don't understand why I behave with my friends as I do.
66. Most of the time I know why I behave the way I do.

Understanding of Personal Sexual Response

21. I do not know much about my own physical and emotional sexual response.
31. I have a good understanding of my own sexual feelings and reactions.
36. I know how I react in different sexual situations.
45. I am confused about my reactions in sexual situations.
52. When I'm in a sexual situation, I get confused about my feelings.

Attitude Toward Various Gender Role Behaviors

8. Men should not hold jobs traditionally held by women.
28. Women should behave differently from men most of the time.
41. At work and at home, women should not have to behave differently than men, when they are equally capable.
50. Women and men should be able to have the same jobs, when they are equally capable.
65. People should not be expected to behave in certain ways just because they are male or female.

Attitude Toward Sexuality in Life

12. Sexual relationships create more problems than they're worth.
42. Sexual relationships make life too difficult.
55. A sexual relationship is one of the best things a person can have.
58. Sexual relationships only bring trouble to people.
64. Sexual relationships provide an important and fulfilling part of life.

Attitude Toward the Importance of Birth Control

4. Two people having sex should use some form of birth control, if they aren't ready for a child.
16. Birth control is not very important.
40. More people should be aware of the importance of birth control.
59. Birth control is not as important as some people say.
61. If two people have sex and aren't ready to have a child, it is very important that they use birth control.

Attitude Toward Premarital Intercourse

2. Unmarried people should not have sex.
20. People should not have sex before marriage.
22. It is all right for two people to have sex before marriage if they are in love.
29. People should have sex only if they are married.
63. It is all right for two people to have sex before marriage.

Attitude Toward the Use of Pressure and Force in Sexual Activity

9. People should never take "no" for an answer when they want to have sex.
15. A person should not pressure someone into sexual activity.
46. It is all right to pressure someone into sexual activity.
47. People should not pressure others to have sex with them.
54. It is all right to demand sex from a girlfriend or boyfriend.

Recognition of the Importance of the Family

11. Families do very little for their children.
24. Family relationships are not important.
53. Families are very important.
60. Family relationships cause more trouble than they're worth.
69. Family relationships can be very valuable.

Self Esteem

3. Overall, I am satisfied with myself.
26. I feel I do not have much to be proud of.
35. At times I think I'm no good at all.
44. I feel that I have many good personal qualities.
68. I wish I had more respect for myself.

Satisfaction with Personal Sexuality

7. I am not happy with my sex life.
18. I am not satisfied with my sexual behavior.
33. I'm happy with my sexual behavior now.
39. Sexually I feel like a failure.
57. I am very satisfied with my sexual activities just the way they are.

Satisfaction with Social Relationships

1. I am very happy with my friendships.
32. I don't have enough friends.
38. My friendships are not as good as I would like them to be.
43. I wish my friendships were better.
67. I feel good having as many friends as I have.

Form 1

BEHAVIOR INVENTORY

Many schools and other organizations around the country have developed sex education programs to help reduce some of the sexual problems of teenagers such as unwanted pregnancy and venereal diseases. To find out if programs are successful, we have selected a program in your school as part of a national study and we are carefully evaluating it. For this evaluation we are giving questionnaires to both participants and non-participants of the program. Because this national study is very important, your answers to this questionnaire are also very important.

This questionnaire is completely anonymous (no one will know it is yours) and it will be used for statistical purposes only. Therefore, do NOT put your name anywhere on the questionnaire. Use a normal pencil or pen so that all questionnaires will look about the same.

This questionnaire includes personal questions about your social and sexual behavior. It is written for many different groups of young people. Some of these young people have had more sexual experience and others have had less. In order to make this questionnaire fit almost everyone, we have included some items that do not apply to everybody. Whenever a question does not apply to you, please check the response, "Does Not Apply." You should NOT conclude from the questions that you should have had all the experiences mentioned in this questionnaire.

Thank you for your help.

Name of school ______________________________

Name of course ______________________________

Teacher's name ______________________________

Your birth date: Month __________ Day _____

Your sex (Check one) Male ___ Female ____

Your grade level in school (Check one)
9 ___
10 ___
11 ___
12 ___

This study is sponsored by the Center for Disease Control in Atlanta, Georgia and is authorized by Section 301 of the Public Health Service Act. Your participation in this study is entirely voluntary, and you may refuse to answer any or all of the questions.

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Expires Sept. 1981

Part 1. The questions below ask how often you have done some things.

Circle: 1 if you do it "Almost never" which means about 5% of the time or less.
2 if you do it "Sometimes" which means about 25% of the time.
3 if you do it "Half the time" which means about 50% of the time.
4 if you do it "Usually" which means about 75% of the time.
5 if you do it "Almost always" which means about 95% of the time or more.
DNA if the question "Does Not Apply" to you.

	almost never	sometimes	half the time	usually	almost always	does not apply
1. When things you've done turn out poorly, how often do you take responsibility for your behavior and its consequences?	1	2	3	4	5	DNA
2. When things you've done turn out poorly, how often do you blame others?	1	2	3	4	5	DNA
3. When you are faced with a decision, how often do you take responsibility for making a decision about it?	1	2	3	4	5	DNA
4. When you have to make a decision, how often do you think hard about the consequences of each possible choice?	1	2	3	4	5	DNA
5. When you have to make a decision, how often do you get as much information as you can before making the decision?	1	2	3	4	5	DNA
6. When you have to make a decision, how often do you first discuss it with others?	1	2	3	4	5	DNA
7. When you have to make a decision about your sexual behavior (for example, going out on a date, holding hands, kissing, petting, or having sex), how often do you take responsibility for the consequences?	1	2	3	4	5	DNA
8. When you have to make a decision about your sexual behavior, how often do you think hard about the consequences of each possible choice?	1	2	3	4	5	DNA
9. When you have to make a decision about your sexual behavior, how often do you first get as much information as you can?	1	2	3	4	5	DNA
10. When you have to make a decision about your sexual behavior, how often do you first discuss it with others?	1	2	3	4	5	DNA
11. When you have to make a decision about your sexual behavior, how often do you make it on the spot without worrying about the consequences?	1	2	3	4	5	DNA

	almost never	sometimes	half the time	usually	almost always	does not apply
12. When a friend wants to talk with you, how often are you able to clear your mind and really listen to what your friend has to say?	1	2	3	4	5	DNA
13. When a friend is talking with you, how often do you ask questions if you don't understand what your friend is saying?	1	2	3	4	5	DNA
14. When a friend is talking with you, how often do you nod your head and say "yes" or something else to show that you are interested?	1	2	3	4	5	DNA
15. When you want to talk with a friend, how often are you able to get your friend to really listen to you?	1	2	3	4	5	DNA
16. When you talk with a friend, how often do you ask for your friend's reaction to what you've said?	1	2	3	4	5	DNA
17. When you talk with a friend, how often do you let your feelings show?	1	2	3	4	5	DNA
18. When you are with a friend you care about, how often do you let that friend know you care?	1	2	3	4	5	DNA
19. When you talk with a friend, how often do you include statements like "*my* feelings are...", "the way *I* think is...", or "it seems to me"?	1	2	3	4	5	DNA
20. When you are alone with a date or boy/girlfriend, how often can you tell him/her your feelings about what you want to do and do not want to do sexually? ("boy/girlfriend" means "boyfriend" if you are a girl, and it means "girlfriend" if you are a boy.)	1	2	3	4	5	DNA
21. If a boy/girl puts pressure on you to be involved sexually and you don't want to be involved, how often do you say "no"? ("boy/girl" means "boy" if you are a girl, and it means "girl" if you are a boy.)	1	2	3	4	5	DNA
22. If a boy/girl puts pressure on you to be involved sexually and you don't want to be involved, how often do you succeed in stopping it?	1	2	3	4	5	DNA
23. If you have sexual intercourse with your boy/girlfriend, how often can you talk with him/her about birth control?	1	2	3	4	5	DNA
24. If you have sexual intercourse and want to use birth control, how often do you insist on using birth control?	1	2	3	4	5	DNA

Part 2. In this section, we want to know how uncomfortable you are doing different things. Being "uncomfortable" means that it is difficult for you and it makes you nervous and up-tight. Indicate how uncomfortable you are with the following activities by circling one of the four numbers after each item. Whenever a question does not apply to you, please circle the response, "DNA," which means "Does Not Apply".

Circle: 1 if you are comfortable.
2 if you are a little uncomfortable.
3 if you are somewhat uncomfortable.
4 if you are very uncomfortable.
DNA if the question Does Not Apply to you.

	comfortable	a little uncomfortable	somewhat uncomfortable	very uncomfortable	does not apply
25. Getting together with a group of friends of the opposite sex.	1	2	3	4	DNA
26. Going to a party.	1	2	3	4	DNA
27. Talking with teenagers of the opposite sex.	1	2	3	4	DNA
28. Going out on a date.	1	2	3	4	DNA
29. Talking with friends about sex.	1	2	3	4	DNA
30. Talking with a date or boy/girlfriend about sex.	1	2	3	4	DNA
31. Talking with parents about sex.	1	2	3	4	DNA
32. Talking with friends about birth control.	1	2	3	4	DNA
33. Talking with a date or boy/girlfriend about birth control.	1	2	3	4	DNA
34. Talking with parents about birth control.	1	2	3	4	DNA
35. Expressing concern and caring for others.	1	2	3	4	DNA
36. Telling a date or boy/girlfriend what you want to do and do not want to do sexually.	1	2	3	4	DNA
37. Saying "no" to a sexual come-on.	1	2	3	4	DNA
38. Having your current sex life, what ever it may be (it may be doing nothing, kissing, petting, or having intercourse).	1	2	3	4	DNA

If you are not having sexual intercourse, circle "DNA" in the four questions below.

39. Insisting on using some form of birth control, if you are having sex.	1	2	3	4	DNA
40. Buying contraceptives at a drug store, if you are having sex.	1	2	3	4	DNA
41. Going to a doctor or clinic for contraception, if you are having sex.	1	2	3	4	DNA
42. Using some form of birth control, if you are having sex.	1	2	3	4	DNA

Part 3: Circle the correct answer to the following two questions.

43. Have you ever had sexual intercourse? yes no

44. Have you had sexual intercourse during the last month? yes no

Part 4: The following questions ask about activities during the last month. Put a number in the right hand space which shows the number of times you engaged in that activity. Put a "0" in that space if you did not engage in that activity during the last month.

Think CAREFULLY about the times that you have had sex during the last month. Think also about the number of times you did not use birth control and the number of times you used different types of birth control.

45. Last month, how many times did you have sexual intercourse? ___ times in the last month

46. Last month, how many times did you have sex when you or your partner did not use any form of birth control? ___ times in the last month

47. Last month, how many times did you have sex when you or your partner used a diaphragm, withdrawal (pulling out before releasing fluid), rhythm (not having sex on fertile days), or foam without condoms? ___ times in the last month

48. Last month, how many times did you have sex when you or your partner used the pill, condoms (rubbers), or an IUD? ___ times in the last month

(If you add your answers to questions #46 plus #47 plus #48, it should equal your answer to #45. If it does not, please correct your answers.)

49. During the last month, how many times have you had a conversation or discussion about sex with your parents? ___ times in the last month

50. During the last month, how many times have you had a conversation or discussion about sex with your friends? ___ times in the last month

51. During the last month, how many times have you had a conversation or discussion about sex with a date or boy/girlfriend? ___ times in the last month

52. During the last month, how many times have you had a conversation or discussion about birth control with your parents? ___ times in the last month

53. During the last month, how many times have you had a conversation or discussion about birth control with your friends? ___ times in the last month

54. During the last month, how many times have you had a conversation or discussion about birth control with a date or boy/girlfriend? ___ times in the last month

Thank you for completing the questionnaire.

Form 1

INTEGRATED QUESTIONNAIRE

Many schools and other organizations around the country have developed sex education programs to help reduce some of the sexual problems of teenagers such as unwanted pregnancy and venereal diseases. To find out if programs are successful, we are giving questionnaires to teenagers in programs and to teenagers not in programs. Because this national study is very important, your answers to this questionnaire are also very important. Please answer all questions carefully.

Do NOT put your name anywhere on this questionnaire. Please use a regular pen or pencil so that all questionnaires will look about the same and no one will know which is yours.

Thank you for your help.

Name of school or organization ____________________________

Name of course ____________________________

Teacher's name ____________________________

Your birth date: Month __________ Day _____

Your sex (Check one) Male ___ Female ____

Your grade level in school (Check one)
8 ___
9 ___
10 ___
11 ___
12 ___

This study is sponsored by the Center for Disease Control in Atlanta, Georgia and is authorized by Section 301 of the Public Health Service Act. Your participation in this study is entirely voluntary, and you may refuse to answer any or all of the questions.

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Part 1. Circle the one best answer to each of the questions below.

1. Some contraceptives:

   a. can be obtained only with a doctor's prescription.
   b. are available at family planning clinics.
   c. can be bought over the counter at drug stores.
   d. can be obtained by people under 18 without their parents' permission.
   e. all of the above.

2. If ten couples have sexual intercourse regularly without using any kind of birth control, the number of couples who become pregnant by the end of one year is about:

   a. one.
   b. three.
   c. six.
   d. nine.
   e. none of the above.

3. People having sexual intercourse can best prevent VD by:

   a. using condoms (rubbers).
   b. using contraceptive foam.
   c. using the pill.
   d. using withdrawal (pulling out).

4. If a couple has sexual intercourse and uses no birth control, the woman might get pregnant:

   a. any time during the month.
   b. only one week before menstruation begins.
   c. only during menstruation.
   d. only one week after menstruation begins.
   e. only two weeks after menstruation begins.

5. The method of birth control which is least effective is:

   a. a condom with foam.
   b. the diaphragm with spermicidal jelly.
   c. withdrawal (pulling out).
   d. the pill.
   e. abstinence (not having intercourse).

6. A woman can become pregnant:

   a. the first time she has sexual intercourse.
   b. if she has sexual intercourse during her menstrual period.
   c. if she has sexual intercourse standing up.
   d. if the male sperm gets near the opening of the vagina, without the man actually entering her body.
   e. all of the above.

7. In general, children born to young teenage parents:

    a. have few problems because their parents are emotionally mature.
    b. have a greater chance of being abused by their parents.
    c. have normal birth weight.
    d. have a greater chance of being healthy.
    e. none of the above.

8. If people have sexual intercourse, the advantages of using condoms are:

    a. they help prevent getting or giving VD.
    b. they can be bought in drug stores by either sex.
    c. they do not have dangerous side effects.
    d. they do not require a prescription.
    e. all of the above.

9. Most unmarried girls who have children while still in high school:

    a. depend upon their parents for support.
    b. finish high school and graduate with their class.
    c. never have to be on public welfare.
    d. have the same social lives as their peers.
    e. all of the above.

10. People choosing a birth control method:

    a. should think only about the cost of the method.
    b. should choose whatever method their friends are using.
    c. should learn about all the methods before choosing the one that's best for them.
    d. should get the method that's easiest to get.
    e. all of the above.

Part 2. This part is NOT a knowledge test. Please rate each statement on a 1 to 5 scale according to how much you agree or disagree with it. Everyone will have different answers. Your answer is correct if it accurately describes you.

Circle:
1 if you strongly disagree with the statement.
2 if you disagree with the statement.
3 if you feel neutral about the statement.
4 if you agree with the statement.
5 if you strongly agree with the statement.

	strongly disagree	disagree	neutral	agree	strongly agree
11. Unmarried people should not have sex.	1	2	3	4	5
12. I have my own set of rules to guide my sexual behavior.	1	2	3	4	5
13. Birth control is not very important.	1	2	3	4	5
14. People should not have sex before marriage.	1	2	3	4	5
15. I know for sure what is right and wrong sexually for me.	1	2	3	4	5
16. Birth control is not as important as some people say.	1	2	3	4	5
17. I have trouble knowing what my values are about my personal sexual behavior.	1	2	3	4	5
18. More people should be aware of the importance of birth control.	1	2	3	4	5
19. People should have sex only if they are married.	1	2	3	4	5
20. I'm confused about my personal sexual values and beliefs.	1	2	3	4	5
21. Two people having sex should use some form of birth control if they aren't ready for a child.	1	2	3	4	5
22. It is all right for two people to have sex before marriage if they are in love.	1	2	3	4	5
23. I'm confused about what I should and should not do sexually.	1	2	3	4	5
24. If two people have sex and aren't ready to have a baby, it is very important that they use birth control.	1	2	3	4	5
25. It is all right for two people to have sex before marriage.	1	2	3	4	5

Part 3. In this section, we want to know how uncomfortable you are doing different things. Being "uncomfortable" means that it is difficult for you and you feel nervous and up-tight.

Circle:
1 if you are comfortable.
2 if you are a little uncomfortable.
3 if you are somewhat uncomfortable.
4 if you are very uncomfortable.
DNA if the question Does Not Apply to you.

	comfortable	a little uncomfortable	somewhat uncomfortable	very uncomfortable	does not apply
26. Talking with friends about sex.	1	2	3	4	DNA
27. Talking with your boy/girlfriend about sex. ("boy/girlfriend" means "boyfriend" if you are a girl, and it means "girlfriend" if you are a boy.)	1	2	3	4	DNA
28. Talking with parents about sex.	1	2	3	4	DNA
29. Talking with friends about birth control.	1	2	3	4	DNA
30. Talking with your boy/girlfriend about birth control.	1	2	3	4	DNA
31. Talking with parents about birth control.	1	2	3	4	DNA
32. Having your current sex life, whatever it may be (it may be doing nothing, kissing, petting, or having intercourse).	1	2	3	4	DNA

If you are not having sexual intercourse, circle "DNA" in the three questions below.

33. Buying contraceptives at a drug store, if you are having sex.	1	2	3	4	DNA
34. Going to a doctor or clinic for contraception, if you are having sex.	1	2	3	4	DNA
35. Using birth control, if you are having sex.	1	2	3	4	DNA

Part 4. The questions below ask how often you do some things.

Circle: 1 if you do it "Almost never" which means about 5% of the time or less.
2 if you do it "Sometimes" which means about 25% of the time.
3 if you do it "Half the time" which means about 50% of the time.
4 if you do it "Usually" which means about 75% of the time.
5 if you do it "Almost always" which means about 95% of the time or more.
DNA if the question Does Not Apply to you.

	almost never	sometimes	half the time	usually	almost always	does not apply
36. When you have to make a decision about your sexual behavior (holding hands, kissing, petting, or having sex), how often do you think hard about the consequences of each possible alternative?	1	2	3	4	5	DNA
37. When you have to make a decision about your sexual behavior, how often do you first get as much information as you can?	1	2	3	4	5	DNA
38. When you have to make a decision about your sexual behavior, how often do you first discuss it with other people?	1	2	3	4	5	DNA
39. When you have to make a decision about your sexual behavior, how often do you make it on the spot without thinking about the consequences?	1	2	3	4	5	DNA
40. If a boy/girl puts pressure on you to be involved sexually and you don't want to be involved, how often do you stop him/her?	1	2	3	4	5	DNA
41. If you have sexual intercourse with your boy/girlfriend, how often can you talk with him/her about using birth control?	1	2	3	4	5	DNA

Part 5: Circle the correct answer to the following two questions.

42. Have you ever had sexual intercourse?	yes	no
43. Have you had sexual intercourse during the last month?	yes	no

Part 6: The following questions ask about activities during the last month. Put a number in the right hand space which shows the number of times you engaged in that activity. Put a "0" in that space if you did not engage in that activity during the last month.

Think CAREFULLY about the times that you have had sex during the last month. Think also about the number of times you did not use birth control and the number of times you used different types of birth control.

44. Last month, how many times did you have sexual intercourse? ___ times in the last month

45. Last month, how many times did you have sex when you or your partner did not use any form of birth control? ___ times in the last month

46. Last month, how many times did you have sex when you or your partner used a diaphragm, withdrawal (pulling out before releasing fluid), rhythm (not having sex on fertile days), or foam without condoms? ___ times in the last month

47. Last month, how many times did you have sex when you or your partner used the pill, condoms (rubbers), or an IUD? ___ times in the last month

(If you add your answers to questions #45 plus #46 plus #47, it should equal your answer to #44. If it does not, please correct your answers.)

48. During the last month, how many times have you had a conversation or discussion about sex with your parents? ___ times in the last month

49. During the last month, how many times have you had a conversation or discussion about sex with your friends? ___ times in the last month

50. During the last month, how many times have you had a conversation or discussion about sex with a date or boy/girlfriend? ___ times in the last month

51. During the last month, how many times have you had a conversation or discussion about birth control with your parents? ___ times in the last month

52. During the last month, how many times have you had a conversation or discussion about birth control with your friends? ___ times in the last month

53. During the last month, how many times have you had a conversation or discussion about birth control with a date or boy/girlfriend? ___ times in the last month

Thank you for completing the questionnaire.

Form 1

CLASS EVALUATION FOR STUDENTS

Many schools and other organizations around the country have developed sex education programs to help reduce some of the sexual problems of teenagers such as unwanted pregnancy and venereal diseases. To find out if programs are successful, we are giving questionnaires to teenagers in programs and to teenagers not in programs. Because this national study is very important, your answers to this questionnaire are also very important. Please answer all questions carefully.

Do NOT put your name anywhere on this questionnaire. Please use a regular pen or pencil so that all questionnaires will look about the same and no one will know which is yours.

Thank you for your help.

Name of school ____________________

Name of course ____________________

Teacher's name ____________________

Your birth date: Month __________ Day _____

Your sex (Check one) Male ___ Female ____

Your grade level in school (Check one)
8 ___
9 ___
10 ___
11 ___
12 ___

This study is sponsored by the Center for Disease Control in Atlanta, Georgia and is authorized by Section 301 of the Public Health Service Act. Your participation in this study is entirely voluntary, and you may refuse to answer any or all of the questions.

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Part 1

Below is a list of questions about your teacher or about someone who taught you sex education. Now that this class is over, please answer each question by circling one number based upon this 5-point scale:

1 -- not at all
2 -- a small amount
3 -- a medium amount
4 -- a large amount
5 -- a great deal

	not at all	a small amount	a medium amount	a large amount	a great deal
1. How enthusiastic was the teacher about teaching this course?	1	2	3	4	5
2. How uncomfortable was the teacher in discussing different things about sex?	1	2	3	4	5
3. How much did the teacher discuss topics in a way that made students feel uncomfortable?	1	2	3	4	5
4. How much did the teacher talk at a level that the students could understand?	1	2	3	4	5
5. How much did the teacher care about the students?	1	2	3	4	5
6. How much respect did the teacher show toward the students?	1	2	3	4	5
7. How much did the students trust the teacher?	1	2	3	4	5
8. How well did the teacher get along with the students?	1	2	3	4	5
9. How much did the teacher encourage students to talk about their feelings and opinions?	1	2	3	4	5
10. To what extent did the teacher talk too much about what's right and wrong?	1	2	3	4	5
11. How carefully did the teacher listen to the students?	1	2	3	4	5
12. How much did the teacher discourage hurting others in sexual situations (e.g., knowingly spreading VD or forcing someone to have sex)?	1	2	3	4	5
13. How much did the teacher encourage thinking about the consequences before having sexual relations?	1	2	3	4	5
14. How much did the teacher encourage students to think about their own values about sexuality?	1	2	3	4	5
15. How much did the teacher encourage the use of birth control to avoid an unwanted pregnancy?	1	2	3	4	5
16. How much did the teacher encourage students to talk with their parents about sexuality?	1	2	3	4	5

Part 2

Below is a list of questions about you and the course. Continue to answer each question by circling one number based upon the same 5-point scale:

1 -- not at all
2 -- a small amount
3 -- a medium amount
4 -- a large amount
5 -- a great deal

	not at all	a small amount	a medium amount	a large amount	a great deal
17. How bored were you by the course?	1	2	3	4	5
18. How much did students participate in class discussions?	1	2	3	4	5
19. How much were you encouraged to ask any questions you had about sex?	1	2	3	4	5
20. How much difficulty did you have talking about your own thoughts and feelings?	1	2	3	4	5
21. How much difficulty did you have asking questions and talking about sexual topics?	1	2	3	4	5
22. How much did you show concern for the other students in the class?	1	2	3	4	5
23. How much did the other students show concern for you?	1	2	3	4	5
24. How much were the students' opinions given in class kept confidential (i.e., not spread outside the classroom)?	1	2	3	4	5
25. How much were you permitted to have values or opinions different from others in the class?	1	2	3	4	5

Part 3

These five questions should be answered using another 5-point scale. Again, circle "DK" if your answer is "don't know."

1 -- very poor
2 -- poor
3 -- average
4 -- good
5 -- excellent
DK-- don't know

	very poor	poor	average	good	excellent	don't know
26. What is your evaluation of the teacher?	1	2	3	4	5	DK
27. What is your evaluation of the topics covered in the course?	1	2	3	4	5	DK
28. What is your evaluation of the materials used, such as books and films?	1	2	3	4	5	DK
29. What is your evaluation of the organization and format of the program (e.g., length, location, and time)?	1	2	3	4	5	DK
30. What is your evaluation of the overall program?	1	2	3	4	5	DK

31. What are some of the strengths of the program (i.e., things you particularly liked)?

32. What are some of the weaknesses of the program (i.e., things you feel should be changed)?

Form 6

CLASS EVALUATION FOR STUDENTS

Many schools and other organizations around the country have developed sex education programs to help reduce some of the sexual problems of teenagers such as unwanted pregnancy and venereal diseases. To find out if programs are successful, we are giving questionnaires to teenagers in programs and to teenagers not in programs. Because this national study is very important, your answers to this questionnaire are also very important. Please answer all questions carefully.

Do NOT put your name anywhere on this questionnaire. Please use a regular pen or pencil so that all questionnaires will look about the same and no one will know which is yours.

Thank you for your help.

Name of school ______________________________

Name of course ______________________________

Teacher's name ______________________________

Your birth date: Month __________ Day _____

Your sex (Check one) Male ___ Female ____

Your grade level in school (Check one)
6 ___
7 ___
8 ___
9 ___
10 ___
11 ___
12 ___

This study is sponsored by the Center for Disease Control in Atlanta, Georgia and is authorized by Section 301 of the Public Health Service Act. Your participation in this study is entirely voluntary, and you may refuse to answer any or all of the questions.

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Expires Sept. 1981

You have completed a sex education unit or course. As best as you can, try to estimate how it changed you.

Part 1

Please answer the following questions with the 5-point scale below:

1 -- much less
2 -- less
3 -- about the same
4 -- more
5 -- much more

	much less	less	about the same	more	much more
1. Do you now know less or more about sexuality because of this course?	1	2	3	4	5
2. Do you now have less or more understanding of yourself and your behavior because of this course?	1	2	3	4	5
3. Are your attitudes and values about your own sexual behavior less or more clear because of this course?	1	2	3	4	5
4. Because of this course, do you now feel that using birth control when people are not ready to have children is less important or more important?	1	2	3	4	5
5. Do you now talk about sexuality (e.g., going out, having sex, birth control, or male and female sex roles) with your friends less or more because of this course?	1	2	3	4	5
6. Do you now talk about sexuality with your boy/girlfriend less or more because of this course?	1	2	3	4	5
7. Do you now talk about sexuality with your parents less or more because of this course?	1	2	3	4	5
8. When you talk about sexuality with others (e.g., your friends, boy/girlfriend, and parents) are you less or more comfortable because of this course?	1	2	3	4	5
9. Do you now talk about sexuality less or more effectively because of this course (i.e. are you more able to talk about your thoughts, feelings, and needs and to listen carefully)?	1	2	3	4	5
10. Are you less likely or more likely to have sex because of this course?	1	2	3	4	5
11. If you have sex, would you be less likely or more likely to use birth control because of this course?	1	2	3	4	5
12. If you have sex, would you be less comfortable or more comfortable using birth control because of this course?	1	2	3	4	5

	much less	less	about the same	more	much more
13. Overall, do you now have less or more respect for yourself because of this course (i.e., do you have better feelings about yourself)?	1	2	3	4	5
14. Are you now less or more satisfied with your social behavior (e.g., going out and forming relationships) because of this course?	1	2	3	4	5
15. Because of this course, are you now less or more satisfied with your current sex life whatever it may be (it may be doing nothing, kissing, petting, or having sex)?	1	2	3	4	5

Part 2

Please answer the following questions with the 5-point scale below:

1 -- much worse
2 -- worse
3 -- about the same
4 -- better
5 -- much better

	much worse	worse	about the same	better	much better
16. Do you now make worse or better decisions about your social life (e.g., going out and forming relationships) because of this course?	1	2	3	4	5
17. Do you now make worse or better decisions about your physical sexual behavior because of this course?	1	2	3	4	5
18. Do you now get along with your friends worse or better because of this course?	1	2	3	4	5

Form 11

CLASS EVALUATION FOR PARENTS

Many schools and other organizations around the country have developed sex education programs to help reduce some of the sexual problems of teenagers such as unwanted pregnancy and venereal diseases. Unfortunately, no one knows if these programs are successful. To better determine this success, we have selected a program in your child's school as part of a national study and we are carefully evaluating it. For this evaluation we are giving questionnaires to parents of participants in the program. Because this national study is very important, your answers to this questionnaire are also very important.

We want this questionnaire to be completely anonymous and we will use it for statistical purposes only. Therefore, do NOT put your name anywhere on this questionnaire. Use a normal pencil or pen so that all questionnaires will look about the same.

Thank you for your help.

Name of school ______________________________

Name of course ______________________________

Teacher's name ______________________________

Your son's or daughter's grade level in school _________

This study is sponsored by the Center for Disease Control in Atlanta, Georgia and is authorized by Section 301 of the Public Health Service Act. Your participation in this study is entirely voluntary, and you may refuse to answer any or all of the questions.

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Please answer the following questions using the 5-point scale below. Circle the number that best reflects your answer. If your answer is "don´t know," circle "DK."

1 -- much less
2 -- less
3 -- about the same
4 -- more
5 -- much more
DK-- don´t know

	much less	less	about the same	more	much more	Don't Know
1. Does your teenager know less or more about sexuality because of this course?	1	2	3	4	5	DK
2. Are your teenager´s attitudes and values about sexuality less or more clear because of this course?	1	2	3	4	5	DK
3. Are you less or more comfortable talking about sexuality with your teenager because of this course?	1	2	3	4	5	DK
4. Have you actually talked about sexuality with your teenager less or more because of the course?	1	2	3	4	5	DK
5. Does your teenager talk and listen to you about sexuality less or more effectively because of the course?	1	2	3	4	5	DK
6. Is your teenager less likely or more likely to make good decisions about social and sexual behavior (e.g. examine alternatives and consider consequences) because of this course?	1	2	3	4	5	DK
7. Is your teenager less likely or more likely to have sex soon because of this course?	1	2	3	4	5	DK

8. Did you attend any sessions especially for parents whose teenagers are in this course? yes____ no____

9. Have you seen any of the curriculum materials? yes____ no____

10. Have you talked to the teacher about the course? yes____ no____

11. Have you ever participated in a sex education course for parents? yes____ no____

These five questions should be answered using another 5-point scale. Again, circle "DK" if your answer is "don´t know."

1 -- very poor
2 -- poor
3 -- average
4 -- good
5 -- excellent
DK-- don´t know

	very poor	poor	average	good	excellent	Don't Know
12. What is your evaluation of the teacher?	1	2	3	4	5	DK
13. What is your evaluation of the topics covered in the course?	1	2	3	4	5	DK
14. What is your evaluation of the materials used, such as books and films?	1	2	3	4	5	DK
15. What is your evaluation of the organization and format of the program (e.g., length, location, and time)?	1	2	3	4	5	DK
16. What is your evaluation of the overall program?	1	2	3	4	5	DK

17. What are some of the strengths of the program (i.e., things you particularly liked)?

____

____

____

____

____

18. What are some of the weaknesses of the program (i.e., things you feel should be changed)?

____

____

____

____

____

Form 4

CLASS EVALUATION FOR PARENTS

Many schools and other organizations around the country have developed sex education programs to help reduce some of the sexual problems of teenagers such as unwanted pregnancy and venereal diseases. Unfortunately, no one knows if these programs are successful. To better determine this success, we are carefully evaluating a program in which you or your son or daughter participated. Because this national study is very important, your answers to this questionnaire are also very important.

We want this questionnaire to be completely anonymous and we will use it for statistical purposes only. Therefore, do NOT put your name anywhere on this questionnaire. Use a normal pencil or pen so that all questionnaires will look about the same.

This questionnaire is designed for parents with children from nine to eighteen years old. Some questions are not appropriate for parents of younger children. If a question is not appropriate for you, please leave it blank.

Thank you for your help.

Name of school or organization
where course was taken ______________________________

Teacher's name ______________________________

Your son's or daughter's grade level in school __________

This study is sponsored by the Center for Disease Control in Atlanta, Georgia and is authorized by Section 301 of the Public Health Service Act. Your participation in this study is entirely voluntary, and you may refuse to answer any or all of the questions.

Approved OMB# 68-S-80002
Expires Sept. 1981

Please answer the following questions using this 5-point scale below. Circle the number that best reflects your answer. If your answer is "don't know," circle "DK."

1 -- not at all
2 -- a small amount
3 -- a medium amount
4 -- a large amount
5 -- a great deal
DK-- don't know

	not at all	a small amount	a medium amount	a large amount	a great deal	don't know
1. Has your son or daughter learned more about sexuality since the course began?	1	2	3	4	5	DK
2. Is it easier for you to talk about sexuality with your son or daughter since the course began?	1	2	3	4	5	DK
3. Have you actually talked more with your son or daughter about sexuality since the course began?	1	2	3	4	5	DK
4. Does your son or daughter talk and listen to you more effectively about sexuality since the course began?	1	2	3	4	5	DK
5. Does your son or daughter make better decisions about social and sexual behavior (e.g., examine alternatives and consider consequences) since the course began?	1	2	3	4	5	DK

6. What other changes have you observed in your son or daughter which you feel are a result of his or her participation in this course?

____

____

____

____

____

____

7. During the last month, how many times have you talked about sexual topics with your son or daughter? ___ times in last month

If you did not have any conversations, you have completed this questionniare. Thank you for your help.

If you did have any conversations, please continue with the questions below.

8. On the average, how long did these conversations last? ___ minutes

9. During these conversations, how uncomfortable was your son or daughter?
___ Comfortable (1)
___ A little uncomfortable (2)
___ Somewhat uncomfortable (3)
___ Very uncomfortable (4)

10. During these conversations, how uncomfortable were you?
___ Comfortable (1)
___ A little uncomfortable (2)
___ Somewhat uncomfortable (3)
___ Very uncomfortable (4)

11. During the last month, how many times have you talked about birth control with your son or daughter? ___ times in last month

If you did not have any conversations about birth control, you have completed the questionnaire. Thank you for your help.

If you did have conversations, please continue with the questions below.

12. On the average, how long did these conversations last? ___ minutes

13. During these conversations, how uncomfortable was your son or daughter?
___ Comfortable (1)
___ A little uncomfortable (2)
___ Somewhat uncomfortable (3)
___ Very uncomfortable (4)

14. During these conversations, how uncomfortable were you?
___ Comfortable (1)
___ A little uncomfortable (2)
___ Somewhat uncomfortable (3)
___ Very uncomfortable (4)